

# CvB stukken voor agenda Universiteitsraad




Overlegvergadering d.d. : 12 juni 2019  
Commissievergadering : FPB  
Agendapunt : Well-being among UT employees

Bijgevoegde stukken : Well-being among UT employees

Betrokken dienst: HR

Secretaris: Wichman

Portefeuillehouder: Bult-Spiering

paraaf:   
paraaf:   
paraaf: 

---

## 1. Status agendapunt:

Rol URaad:

- Ter informatie
- Ter advisering
- Ter instemming
- Anders:

---

## 2. Eerder behandeld in: N.v.t.

Naam gremium:

Datum behandeling:

Naam agendapunt:

Conclusie toen:

---

## 3. Toelichting/samenvatting:

The executive board presents to the university council a document named 'Well-being among UT employees'. The document can be understood as an evidence-based chance to improve the well-being of UT employees in a sustainable way. After all, the different parts present the current status quo of well-being and consequently offer the opportunity to improve from scratch. The document consists of five parts:

- a management summary,
- report well-being research 2019,
- the annual report of the UT's occupational health service provider Arbo Unie,
- a sickness absence analysis (2014-2018) and
- a researcher's reflection.

All parts shed light on the UT employees well-being and health. On the one side, the contributing parts together support the organisation towards directions for preventive and curative well-being management. For example, the well-being research and the Arbo Unie's annual report point towards the vital role of supervisors. On the other side, referring to some outcomes like a prevention focus related to specific age and gender groups, the parts challenge each other. These issues or, more accurate, the less plain observations demand active consultations about the foci of well-being approaches or practices. Involvement and consultations are also needed for the more clear topics to address. Improving the well-being of UT employees is a long-term responsibility that can be only accomplished through structural and traversed 'partnerships' between the workforce and the top, central and local actors, HR professionals, supervisors and health

professionals. As a matter of fact, for increased health and well-being the active contribution of each organizational member is demanded.

The executive board requests different bodies/forums and units to respond to and advice on the results and more concrete appropriate measures/actions. The HR service department collects the responses/advice and will present an integrated overview. This overview of actions to take will be subject to decision-making (after the summer vacation).

Obviously, the executive board welcomes all ideas and advice, but also would like to request answers upon the following two questions:

- 1) What are the university councils concrete ideas concerning the to-be-improved issues for well-being: what should be done and how?
  - 2) What are the university councils concrete ideas concerning a multiple stakeholder partnership for well-being: who should be involved and what is an appropriate cooperative way of working?
- 

**4. (Voorgenomen) besluit CvB: N.v.t.**

*Gezien*  
*Gehoord*  
*Overwegende*  
*Besluit het CvB*

---

**GRIFFIE URaad: (door griffie UR in te vullen)**

**Eerder in URaad aan de orde geweest?**

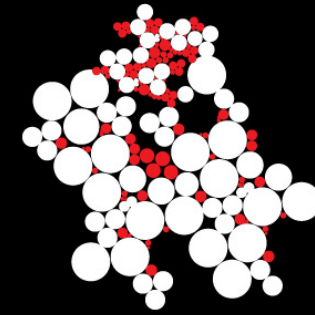
- Nee.
- Ja, op

Conclusie toen:

**Nadere toelichting:** (Voor als presidium/griffier vindt dat één van bovengenoemde punten nadere toelichting behoeft)

.....  
.....

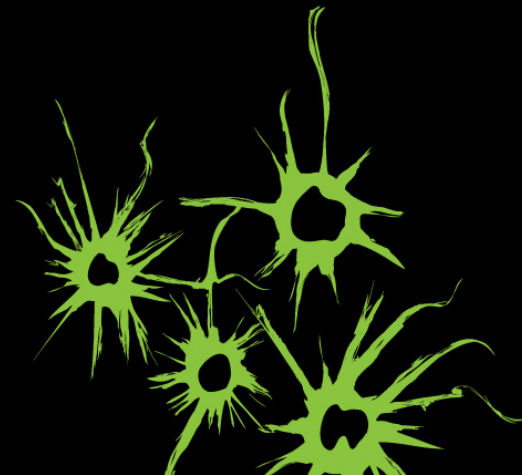
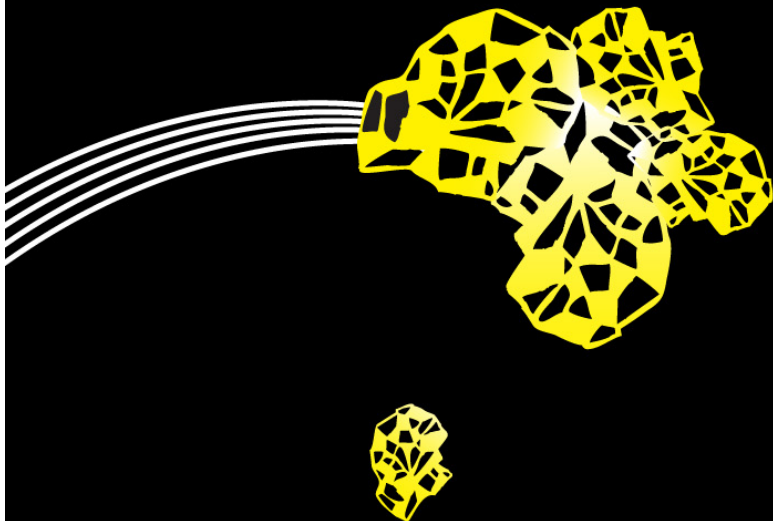
UNIVERSITEIT TWENTE.



# WELL-BEING AMONG UT EMPLOYEES 2019

## MANAGEMENT SUMMARY

(HR, MAY 2019)





# WELL-BEING AMONG UT EMPLOYEES 2019

## THE COMPONENTS OF THE DOCUMENT

---

This summary presentation is based on four different inputs:

- I. Report 'Employee well-being research 2019' (response rate: 47%);
- II. Annual report from the UT's Occupational Health Services (Arbo Unie);
- III. HR Sickness absence analysis (2014-2018)
- IV. Well-being research: A researcher's reflection



A management summary of most striking results from the studies (I-III) can be found in the appendix of this presentation.

We invite the UT community to a critical discussion of all four documents.

## ON THE **POSITIVE SIDE** OF WELL-BEING

---



**3** GOOD HEALTH  
AND WELL-BEING

In general, the UT has a sickness absence rate many sectors would applaud to: 3,37% (exclusive pregnancy).

- In general, UT employees
  - ✓ show high **work engagement**
  - ✓ like their team (**team cohesion**)
  - ✓ perceive **high autonomy and self-efficacy**
  - ✓ experience their jobs **challenging and interesting**
- The UT invests in the **reduction of work pressure** (Arbo Unie)



# THE OTHER SIDE OF WELL-BEING (1)

---

- The general **sickness absence rate is increasing** as well as the absence rates of several employee groups (i.e. teachers, support staff, female PhD candidates, female PostDocs (sickness absence analysis) and organisational units.
- The well-being research shows that the **work pressure is high**. The perceived workload is for 53% of the employees good, for 44% (way) too high, implying an increase compared to the 2015 measurement: in 2015, 35% of the respondents reported a (way) too high workload. This is in line with observations at other Dutch universities.
- The Arbo Unie reports that relatively many employees fall ill for **psychological reasons caused by work circumstances** and concludes that especially the age group <45 years of age and females need special attention.

# THE OTHER SIDE OF WELL-BEING (2)

---



16 PEACE, JUSTICE AND  
STRONG INSTITUTIONS

The well-being research uncovered that 14% of the respondents (18% minus 4% who preferred not to answer) reported having experienced a **type of aggression** at work during the last two years. The researchers state that a safer organisational climate is in demand.

Arbo Unie mentions reports about **unacceptable behaviour at work** and points to a **culture** where it is not safe for all to discuss all issues.

- Employees and in particular PhD candidates experience thresholds for discussing issues with their supervisors.
- Sensitive issues like strain should be also more discussed in teams.



# SHARED DENOMINATORS - RECOMMENDATIONS

## ARBO UNIE AND WELL-BEING RESEARCH

---



Enhance attention for improving **working conditions** / human resource management:

- less role overload and administrative burden & bureaucracy;
- more structural and social resources (i.e. learning new things and developing professional capabilities respectively asking for coaching and feedback) as well as better HRM (including career opportunities).



Enhance attention for **social safety** and its prerequisite 'social safe climate'.



**Leadership:** Supervisors play a crucial role for employee well-being.

- General leadership development is necessary
- Health-oriented leadership development is necessary.





# AMBIGUOUS DENOMINATORS - RECOMMENDATIONS

---

## Age

- ArboUnie advices to focus on 25-44 years of age
- Sickness absence analysis suggests an all age ‘a la carte’ approach

✔ Advice: **Age-, career & life stage aware HRM with attention for “older employees”**

## Gender

- ArboUnie advices to focus on females
- Sickness absence analysis suggests a gender inclusive approach

✔ Advice: **Pay attention also to males**

# ONE STEP BEYOND

## WELL-BEING IS A TOP PRIORITY FOR EVERYBODY

---

### GOOD HEALTH AND WELL-BEING: WHY IT MATTERS

---

#### What's the goal here?

To ensure healthy lives and promote well-being for all at all ages.

#### Why?

Ensuring healthy lives and promoting well-being for all at all ages is important to building prosperous societies.

The employees experience of **work conditions, leadership and climate** is a result of structural policies and daily practices;

Therefore, the improvement of working conditions and way of working (culture) has to be a shared responsibility of multiple stakeholders: supervisors, employees, HR professionals & advisors, participation boards and central as well as local high-ranking officials. Basic thoughts:

- ✓ **Ownership:** for everybody, well-being is a top priority;
- ✓ **Partnership** and cooperation are demanded;
- ✓ **Synergy:** For appropriate and supported decision-making on the 'how to', we need organisation-wide input.

# ONE STEP BEYOND

## POINTS OF DEPARTURE – WHAT WE ALREADY DO

---

Well being related initiatives appear also from the following initiatives:

- Taskforce work pressure: Active in continuously addressing the subject on central and local levels
- Introduction 'Pilot Ombudsperson'
- Healthy practices in the [Dutch dissertation system](#): Transforming principles and recommendations practices for PhD candidates
- Step-by-step, but continuous improvement of HR policies, codes and practices. Such as an update of code of conduct (un)acceptable behavior, introduction of an aggressionprotocol and strengthening the stakeholder network.



# ONE STEP BEYOND

## THE PROCESS: INVOLVE MULTIPLE STAKEHOLDERS

---

1. Communicate the highlights of the results among UT employees (employee portal / U-today). Explicit invitation all UT colleagues to share feedback and ideas for improvement.
2. Presentation of results in
  - Faculty boards and MT's of the service departments,
  - University Council, OPUT, Faculty & service councils
  - HR team, UCB and CvB-D.
  - UT networks (ambassadorsnetwork, JA@Utwente).
3. Invite all faculties and service departments to organise dialogue sessions on the results and ideas for improvement
4. HR Facilitates a number of reflective sessions with in depth questions, dilemma's and analyses on the collected data (professionaly facilitated by an expert team)
5. Collect the feedback & advice on how to improve employee well-being.
6. Decision-making about actions (after the summer vacation)
  - based on an analysis and overview of the collected input.
  - Integrate long term perspective in Shaping2030.
7. Regular updates with regard to the improvement measures.



# ONE STEP BEYOND

## GUIDING QUESTIONS IN INTERPRETING THE RESULTS

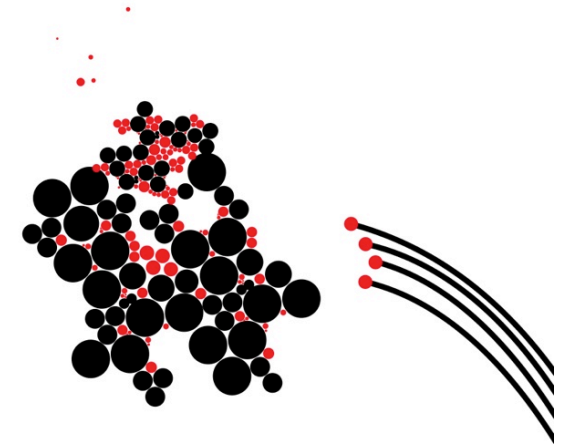
---

Obviously, all feedback, ideas and advice is welcome.

We are in search of concrete ideas concerning the to-be-improved issues for well-being:

what should be done and how

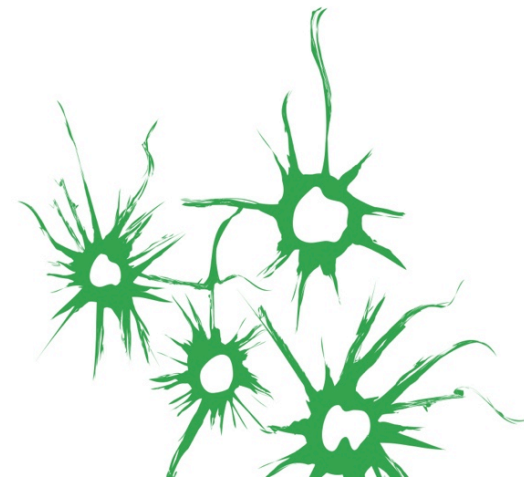
- to improving working conditions / HRM?
- to improving our leadership qualities?
- to develop a safer organisational climate?
- we become more age-, career & life stage aware and gender inclusive?
- can we further reduce work-pressure?
- Communicate about what we do?



## APPENDIX

### MANAGEMENT SUMMARIES OF

- 'EMPLOYEE WELL-BEING RESEARCH 2019'
- ANNUAL REPORT ARBO UNIE;
- SICKNESS ABSENCE ANALYSIS (2014-2018)
- TIMELINE NEXT STEPS

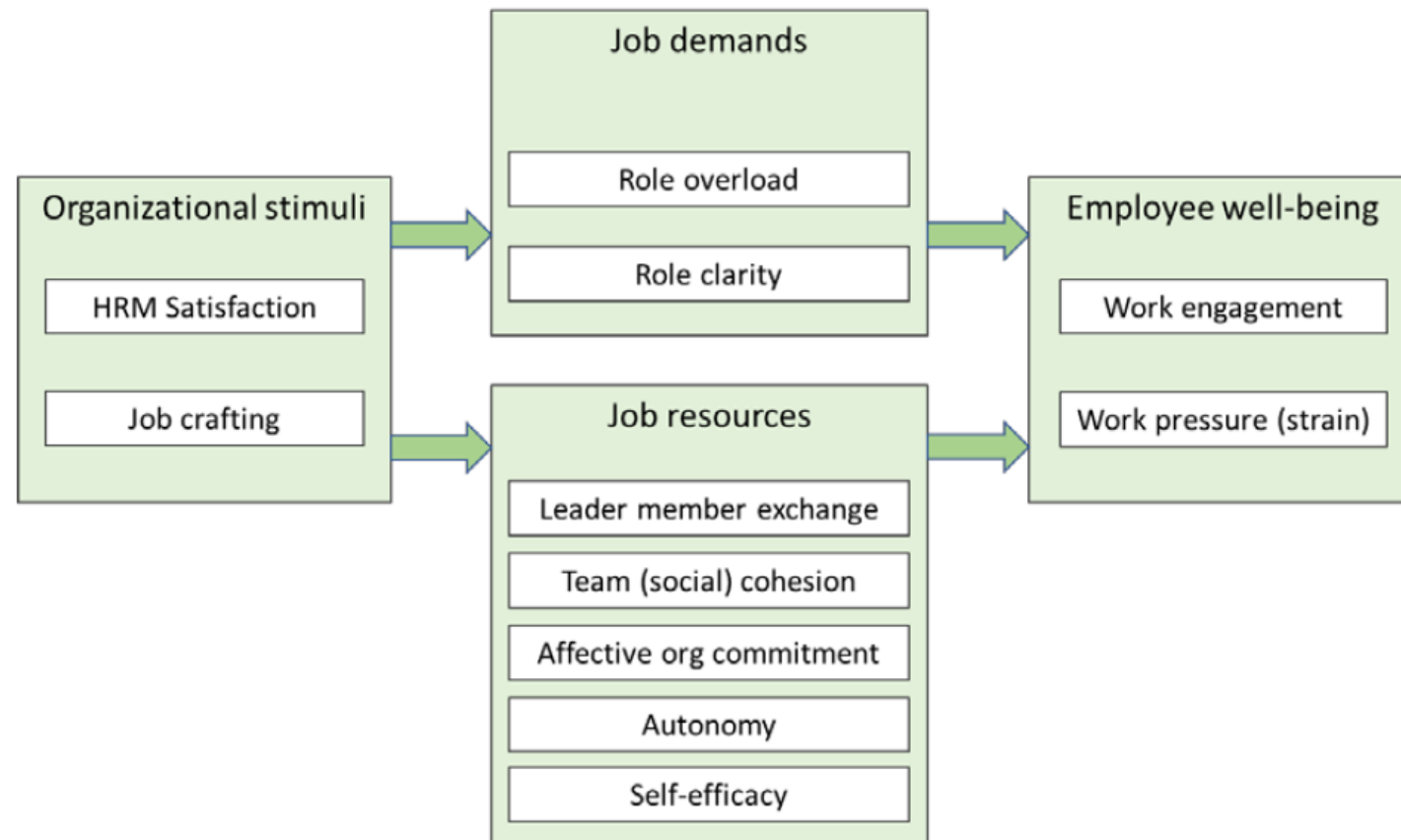


# EMPLOYEE WELL-BEING RESEARCH 2019

## MANAGEMENT SUMMARY 1/3

---

### The conceptual model






# EMPLOYEE WELL-BEING RESEARCH 2019

## MANAGEMENT SUMMARY 2/3

---

The well-being research shows us that employees are engaged in their work and committed to the organization. At the same time, they report to be strained. The work pressure has increased over the last four years, covering an increasing amount of UT employees experiencing a workload which they consider to be too high. The most important findings are:

- 
- **Response rate:** 47%, more details in appendix 1 of the report (page 32)
  - Employees at the UT are both very much engaged and strained.
  - The **overall satisfaction** of employees with UT is 7.2 (scale 1-10) (page 9)
  - **Work engagement** can be influenced by increasing job crafting and self-efficacy.
  - The **relationship with the supervisor/manager** is strongly related to strain.
  - One out of seven employees has experienced a **type of aggressive behavior** during the past two years. This is in line with findings in national surveys among comparable organizations.





# EMPLOYEE WELL-BEING RESEARCH 2019

## MANAGEMENT SUMMARY 3/3

---

Based on the findings we recommend (chapter 7 page 29):

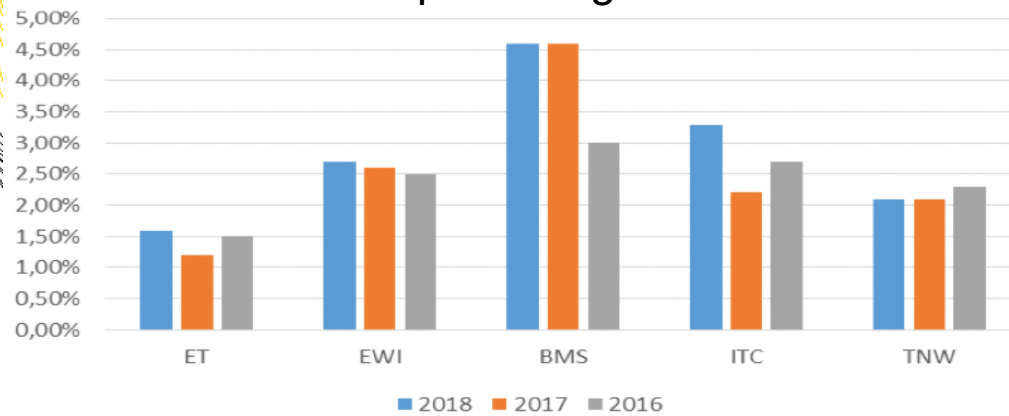
- invest in job resources: job crafting, HRM, autonomy, self-efficacy and high-quality leader-member relationships.
  - job crafting policies focusing on increasing social resources (such as investing in asking for coaching and feedback) or on increasing structural resources (such as developing knowledge and skills) can lead to less strain and more work engagement.
  - better HRM can lead to higher commitment, better team cohesion, better leader-member relations and less role overload.
  - Improved leader-member exchange is essential
  - Investing in development and career opportunities, such as offering permanent contracts, is recommended.
- Reduce administration, management tasks and bureaucracy
- A special recommendation is to invest in an open climate to discuss aggressive and violent behaviors at the UT.



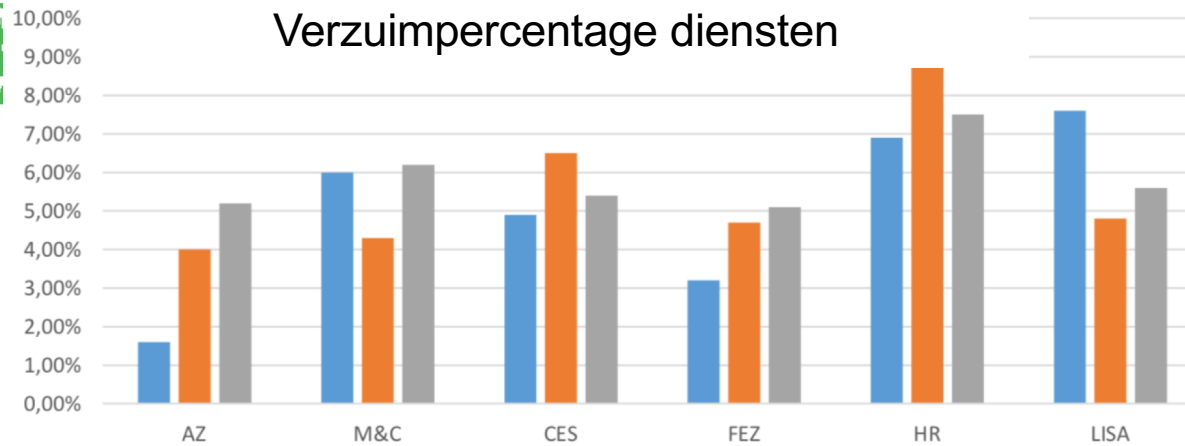
# ANNUAL REPORT ARBO UNIE

## MANAGEMENT SUMMARY 1/2

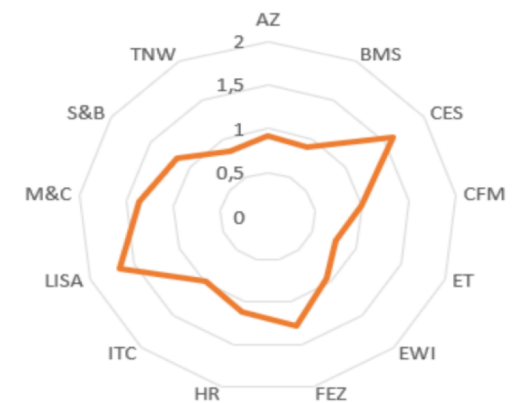
### Verzuimpercentage faculteiten



### Verzuimpercentage diensten



### meldingsfrequentie per afdeling





# ANNUAL REPORT ARBO UNIE

## MANAGEMENT SUMMARY 2/2

---

### Aanbevelingen Arbo Unie:

1. Geef prioriteit aan een preventieve aanpak van het psychisch verzuim, met ter overweging de volgende oplossingsstrategieën :
  - Per doelgroep supportgroepen te starten
  - Bespreekbaar maken van spanningsklachten in teams.
  - Laagdrempelig bieden van ondersteuning voor promovendi
  - Leidinggevenden leren vroege signalen van overbelasting te herkennen en adequaat te reageren.
  - Overweeg af te stappen van het integraal management door hoogleraren.
2. Neem het centrale arbo beleid mee in het vertalen van de strategische doelstellingen naar de beleid in de faculteiten. Per eenheid de prioriteiten bepalen, en de ondersteuning meer richten op de wensen van de verschillende organisatieonderdelen.



# SICKNESS ABSENCE ANALYSIS (2014-2018)

## MANAGEMENT SUMMARY 1/2

---

The sickness absence rate of Dutch universities and in particular the UT's (3,37%) is significantly lower than in other Dutch sectors.

- **Gender;** Female sickness absence rates differ across functions and currently female assistant and full professors show not significant, but lower rates than their male counterparts.
- **Age;** In contrast with the advice in the Annual report of Arbo Unie: The (development of) sickness absence rates of employees 46 years and older are concerning and this is especially true for age group >60: compared to 2015 (sickness absence rate: 3,70%), in 2018 the rate of this group (6,04%) increased with 63%.
- **Nationality;** in general UT's Dutch employees report illness more than their foreign colleagues. We can not conclude that Dutch UT employees are less healthy than their foreign colleagues



# SICKNESS ABSENCE ANALYSIS (2014-2018)

## MANAGEMENT SUMMARY 2/2

---

A controversial perspective: one might argue that the increasing sickness absence across Dutch universities and in particular the UT tells something about the healthiness of governmental policies, sectorial and management demands.

- Several scholars provide food for thought that points towards a connection between sickness absence, management control and employee resistance. “Workers most subject to managerial control were most likely to make absence ‘a legitimate means of escape’ from the ‘routine frustrations of going to work’” (Edwards & Scallion, 1984, p. 110).
- Behrend (1957) assumes that management attempts to increase working effort would be likely to lead to higher levels of absence or withdrawal because of perceived breaches of the effort bargain.

This begs for a critical perspective on sickness absence as a possible attempt to escape from such controls and regain power over one’s life.



# TIMELINE NEXT STEPS

---

- 20 May 2019: Sharing of the well-being research report with all employees through the channels as suggested by the M&C service departments.
- From 20 May 2019 onwards: Presentation of the well-being research 2019 results for all organisational units
  - two presentations have been already settled: 21 May CFM and 6 June FIN.
- 6 June 2019: HR team (presentation 'well-being among UT employees & discussion')
- 12 June 2019: cie FPB UR (presentation 'well-being among UT employees & discussion')
- 18 June 2019: LO OPUT (presentation 'well-being among UT employees & discussion')
- 9 July 2019: UCB (presentation 'well-being among UT employees & discussion')

UNIVERSITY OF TWENTE.

---

**Work engagement and work pressure: still in balance?  
A well-being study among UT employees**

---

23-04-2019

Dr. Ir. Jan de Leede  
Dr. Jeroen Meijerink  
Dr. Nicole Torka

# UNIVERSITY OF TWENTE.

## CONTENT

PREFACE.....	4
MANAGEMENT SUMMARY.....	5
1 AIMS AND BACKGROUND OF THE STUDY .....	7
2 THEORETICAL BACKGROUND .....	8
2.1 Conceptual model.....	8
2.2 Definition of relevant concepts .....	9
2.2.1 Organizational and employee stimuli .....	9
2.2.2 Job Demands.....	10
2.2.3 Job Resources .....	10
2.2.4 Employee Well-Being .....	10
3 FINDINGS ON WORK ENGAGEMENT, STRAIN and other well-being indicators.....	12
3.1 Satisfaction with the UT, work engagement and strain.....	12
3.1.1 Satisfaction, work engagement and strain across faculties and support units ..	12
3.1.2 Satisfaction, work engagement and strain across job functions .....	13
3.1.3 Satisfaction, work engagement and strain across country of birth .....	14
3.2 Perceived workload.....	15
3.2.1 Distribution of perceived workload across faculties and support units.....	16
3.2.2 Distribution of perceived workload across functions .....	17
3.3 Overtime.....	17
3.3.1 Overtime across organizational units and functions.....	17
3.3.2 Taking vacation days to complete work activities .....	19
3.3.3 Calling in sick to complete work activities.....	20
3.4 Correlations .....	20
3.4.1 Correlates of work engagement .....	20
3.4.2 Correlates of strain.....	21
3.4.3 Correlates of workload / role overload.....	21
3.4.4 Gender.....	21
3.5 Relating employee well-being with its antecedents .....	23
4 FINDINGS ON PERCEIVED AGGRESSIVE BEHAVIORS.....	26
5 FINDINGS ON SATISFACTION WITH FACILITIES AND TOP-3 .....	28
5.1 Satisfaction with ARBO and campus facilities .....	28
5.2 Top 3 best and top 3 to improve .....	28
6 CONCLUSIONS .....	30



# UNIVERSITY OF TWENTE.

7	RECOMMENDATIONS .....	32
	REFERENCES.....	33
	APPENDIX 1: METHOD.....	34
	Organization of the research .....	34
	Data collection .....	34
	Measures .....	35
	Response and representativeness.....	35
	Response rate: 47 percent .....	35
	Representativeness .....	36
	Explanations for non-response .....	37
	Response organizational units .....	38
	Data analysis .....	41
	APPENDIX 2: QUESTIONNAIRE.....	42
	APPENDIX 3: MEANS SCORES FOR ANTECEDENTS OF EMPLOYEE WELL-BEING.....	0
	APPENDIX 4 : MODEL FIT COMPARISON .....	0
	APPENDIX 5: COMPLETE OVERVIEW OF SEM RESULTS.....	2
	APPENDIX 6 TIME SPENT ON SPECIFIC TASKS.....	3

# UNIVERSITY OF TWENTE.

## PREFACE

Scientific research and education are both activities performed by people. It is therefore essential to know how employees of the University of Twente experience their job, job conditions and the organization they work for. Particularly, employee experiences of work engagement and work pressure/strain are important as they reflect employees' well-being. In line with these considerations, an employee well-being research was performed at the University of Twente in the beginning of 2019. This report presents and summarizes the results of this study.

### *Acknowledgements*

The research team wants to thank those who contributed to the employee well-being study. In the first place, we acknowledge the employees who took the time to fill out the survey on which the employee well-being study is based. Secondly, we want to thank the expert group for the help in setting up this study. In addition, we thank the URaad and OPUT for their valuable input and comments on earlier versions of the survey and proposed data collection procedure. Also, we want to thank the group of employee-pilot testers for their willingness, time and useful remarks on the draft survey. Thirdly, we want to thank Ipsos for the efforts in organizing the data collection. Finally, thank the CvB for the trust to organize, analyze and report the results of this important study.

Dr. Ir. Jan de Leede  
Dr. Jeroen Meijerink  
Dr. Nicole Torka

## MANAGEMENT SUMMARY

Work engagement and work pressure should be in balance for the employees of our university. However, the findings of the well-being study among employees of 2019 show that it is a fragile balance. The results show that employees are engaged in their work and committed to the organization. At the same time, they report to be strained. The work pressure has increased over the last four years, covering an increasing amount of UT employees experiencing a workload which they consider to be too high.

The most important findings are:

1. Employees at the UT are both very much engaged and strained. The work engagement of UT employees in general is high: on average 5.3 (scale 1-7). The work pressure of UT employees in general is high as well. The results on strain show a mean of 3.21 (scale 1-5). Employees spend excessive overtime hours and/or spend sick days or vacation days for finishing work. The results on work engagement and work pressure are not the same for all UT employees. Full Professors report the highest level of work engagement and the highest level of strain of all employees at the UT.
2. The overall satisfaction of employees with UT is a 7.2 (on a scale from 1-10), which is neither undesirable, nor good in comparison to other organizations.
3. Work engagement can be influenced by increasing job crafting and self-efficacy. However, employees that pro-actively take on extra responsibilities (i.e. crafting job demands) run the risk of increasing their role overload and strain. Job crafting focusing on increasing social resources, such as asking coaching and feedback, and increasing structural resources, such as knowledge and skills, help to reduce strain.
4. The relationship with the supervisor/manager is strongly related to strain. The results indicated an indirect and negative relation between strain and satisfaction with HRM (via leader-member exchange). The implication is that HRM practices help to control strain through improving the relationship between managers and their employees.
5. The prevalence of aggressive behaviors (especially intimidation) is in line with other findings based on national surveys among comparable organizations. One out of seven employees has experienced a type of aggressive behavior during the past two years.

Based on these findings we recommend:

1. To keep a healthy and productive balance between work engagement and work pressure (strain) we recommend that the UT particularly invests in the following activities and job resources: job crafting, HRM, autonomy, self-efficacy and high-quality leader-member relationships.
2. Investing in job crafting practices should be done with care. Especially job crafting that is focused on increasing challenging job demands should be avoided. Instead, job crafting policies focusing on increasing social resources (such as investing in asking for coaching and feedback) or on increasing structural resources (such as developing knowledge and skills) can lead to less strain and more work engagement.
3. Investing in HRM practices do offer good possibilities to reduce strain and increase work engagement. Our findings indicate that better HRM can lead to higher commitment, better team cohesion, better leader-member relations and less role overload. Investments in leader-member exchange is essential here as employees' reports

## UNIVERSITY OF TWENTE.

indicated that this job resource type is the least developed of all job resources included in the current study.

4. Investing in development and career opportunities, such as offering permanent contracts, is recommended.
5. Investing in the reduction of drivers of overtime. Here, reducing administration and management tasks and bureaucracy must be prioritized.
6. A special recommendation is to invest in an open climate to discuss aggressive and violent behaviors at the UT. Special focus should be to communicate more about the role and the position of the confidential person for these matters.

# UNIVERSITY OF TWENTE.

## 1 AIMS AND BACKGROUND OF THE STUDY

The Executive Board (CvB) of the University of Twente (UT) and the indirect participation bodies (university council and OPUT) ascribe great importance to safeguarding employee well-being at UT. They therefore commissioned a study into employee well-being and its antecedents. Moreover, regulations on working conditions (in Dutch: ARBO) pose the requirement to monitor the psychological strain of employees as part of the *Risico-inventarisatie & Evaluatie* (RIE). In line with this requirement, this well-being study assesses the risks of work pressure (strain) and its antecedents. Taken together the aims of the survey are therefore

1. To measure employee well-being, which is defined as employees' perceptions of work engagement and work pressure (strain).
2. To measure relevant antecedents – i.e. human resource management (HRM), job crafting, job demands and job resources – of employee well-being.
3. To test hypotheses on the relationship between employee well-being and its antecedents.
4. To measure employees' perceptions of aggression and violence at work.
5. The fulfillment of the aforementioned aims can contribute to an improvement of the UT's HRM policies and practices as well as support priority setting.

On the basis of the research results, recommendations for policy and management will be formulated on how to safeguard employee well-being at the UT. With the results of this survey, we hope to contribute to the plans – required by the CAO – of the university to reduce work pressure.

To realize these five aims, the research team developed a conceptual model on the basis of the Job-Demands-Resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti et al, 2001; Schaufeli, Bakker & Salanova, 2006). The JD-R model is frequently used in academic research into employee well-being at work. We enriched this model by adding insights from recent job crafting studies (Tims et al, 2012) and scholarly work into human resource management (HRM). The conceptual model served as the basis for the development of an employee survey used to measure employee well-being and its antecedents at the UT. To this survey, we added additional questions to measure employees' experiences of specific UT facilities as well as perceived aggression and violence at work. For the sake of comparability, we reused several of the well-being and satisfaction survey questions that were included in the previous UT employee survey.

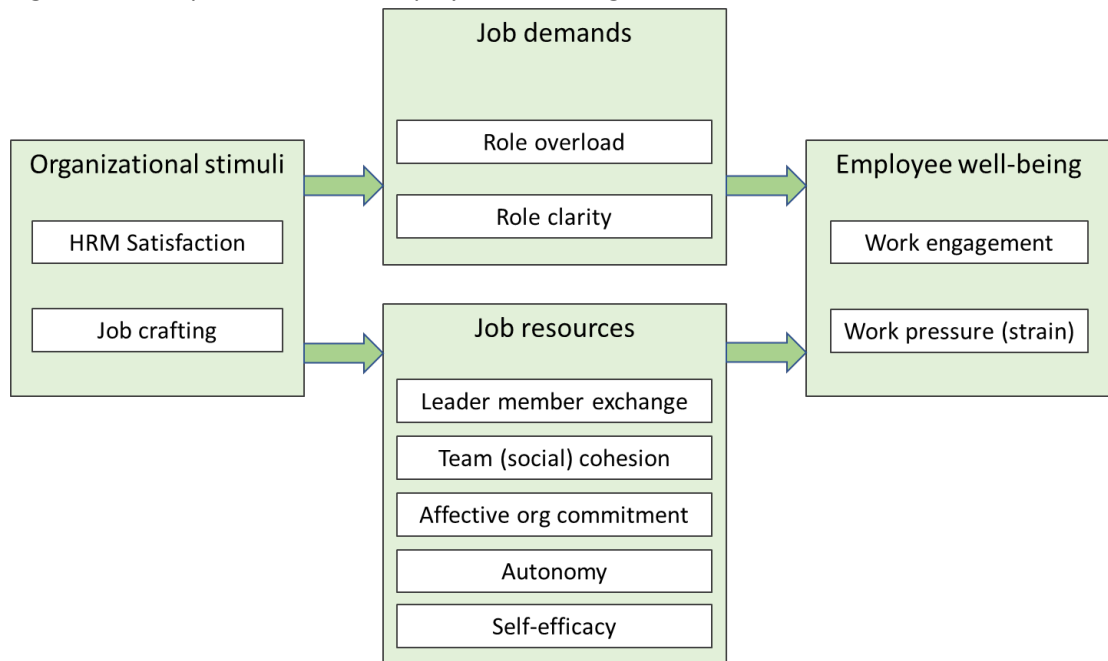
## 2 THEORETICAL BACKGROUND

### 2.1 Conceptual model

To ensure that the current well-being study is grounded in both theory and practice, the research team decided to draw on both the academic literature on well-being at work as well insights gained from exploratory studies into stress/strain at the UT. These conceptual and empirical insights were combined to arrive at a conceptual model that explains employee well-being and its antecedents (see Figure 1). The core of the conceptual model is based on the Job-Demands-Resources (JD-R) model (Bakker & Demerouti, 2007). The JD-R model predicts that employee well-being is a function of job demands (i.e. job characteristics that drain energy, such as role overload and poor role clarity (also called: role ambiguity)) versus job resources (i.e. job characteristics which enable employees to realize their goals and which are energizing). We included job resources that relate to the job (autonomy and self-efficacy), the supervisor (leader-member exchange (LMX)), the team (team cohesion) and the organization (commitment).

To examine how organizational policies/practices impact job demands and job resources, and how employees themselves can safeguard their well-being, we decided to examine employee satisfaction with HRM activities such as training, appraisal and feedback (as relevant organizational policies/practices that may impact well-being) as well as employee reports of job crafting (i.e. employee-initiated changes to job demands/resources for sustaining well-being). Since HRM activities and job crafting are unlikely to have a direct relationship with employee well-being, we hypothesize that job demands and job resources mediate between employee satisfaction with HRM / job crafting and employee well-being. Employee well-being is conceptualized as work engagement and work pressure/strain to tap into both the desirable dimensions of well-being (i.e. work engagement) as well as its undesirable dimensions (i.e. work pressure/strain). In the following section, we define each of the concepts included in the conceptual model.

Figure 1: Conceptual model on employee well-being and its antecedents



## 2.2 Definition of relevant concepts

This section offers the definitions of the variables included in the conceptual model (see Figure 1).

### 2.2.1 Organizational and employee stimuli

- *Satisfaction with Human Resource Management (HRM)* is defined as employees' satisfaction with the following HRM practices: training/education opportunities, opportunities to change jobs, opportunities to develop within current position, performance appraisal, performance feedback, pay, benefits other than pay (working times, vacation days, pension arrangements, etc.), family-friendly policies and facilities, recognition for performance, influencing decisions related to issues that concern the employee, support during and after illness, support for new employees, information from an HR specialist (about pay, benefits, leave, training opportunities, etc.) and support when employees have a problem related to HR issues (pay, benefits, contracts, etc.).
- *Job crafting* refers to the self-initiated job changes pro-actively realized by employees themselves in order to align the job better to their own needs and strengths (Tims et al., 2012; Dorenbosch et al., 2013). In this study, three types of job crafting were examined:
  - Increasing structural resources, which are employee-initiated actions for (pro-actively) acquiring personal resources needed to effectively execute one's work, including knowledge and skills, and autonomy.
  - Increasing social resources, which are employee-initiated actions for (pro-actively) acquiring support from others, including asking for performance

# UNIVERSITY OF TWENTE.

feedback from a supervisor and/or co-workers and asking colleagues to offer coaching services.

- Increasing challenging demands, which refer to employee-initiated actions for (pro-actively) enacting additional responsibilities at work, such as starting new projects or taking on extra tasks even if the employees do not receive a salary for these tasks.

## 2.2.2 Job Demands

- *Role overload* describes situations in which employees feel there are too many responsibilities or activities expected of them in light of the time available, their abilities, and other constraints (Rizzo et al., 1970).
- *Role clarity* refers to the availability of information about the responsibilities of an employee such that the employee knows what is expected of him/her (Rizzo et al., 1970). The opposite of role clarity is role ambiguity.

## 2.2.3 Job Resources

- *Leader-member exchange (LMX)* describes the quality of the relationship between supervisor/manager and the employee, as experienced by the employee. Low quality LMX-relations are characterized by top-down interventions, economic exchange relationships and formal job descriptions. High quality LMX-relations consists of mutual trust, respect and mutual obligations between supervisor and the employee (Basu & Green, 1997; Graen en Uhl-Bien, 1995).
- *Team cohesion* is the resultant of all the forces acting on an employee to remain in the team s/he works (Sargent & Sue-Chan, 2001). As such, it describes whether employees feel a sense of belongingness with their colleagues and whether they like their colleagues. We focused on the affective side of team cohesion, since affective team cohesion as a form of social support of the colleagues may serve as a job resource (see e.g. Costa et al., 2014).
- *Affective organizational commitment* describes an employee's positive emotional attachment to the organization, in terms of identification with the goals of the organization (Allen and Meyer, 1990). As a state of mind or attitude, affective commitment is a predictor for employee behavior, such as the desire to remain a part of the organization.
- *Autonomy* refers to the degree to which employees perceived they have the opportunity to decide when, where, and how their job is to be done (Clark, 2001)
- *Self-efficacy* described employees' beliefs about their knowledge, skills and abilities to perform their job. The more confident employees are about their knowledge, skills and abilities, they higher the level of self-efficacy (Bandura, 2010).

## 2.2.4 Employee Well-Being

- *Work engagement* refers to employees' dedication and attachment toward their performance in their job (Schaufeli, Bakker, & Salanova, 2006). For this study, two sub-



## UNIVERSITY OF TWENTE.

dimensions of work engagement were examined: vigor (Characterized by high levels of energy and mental resilience at work, the willingness to put effort into the job, and persistence when confronted with difficulties) and dedication (i.e. being strongly involved in one's work, and experiencing a sense of significance, enthusiasm, inspiration, pride and challenge).

- *Strain* refers to the level of cognitive irritation experienced by employees that occurs when employees experience difficulties to relax at home after work or worry about their work-related problems when being at home or on vacation.

In addition to work engagement and strain, a number of variables were included to further assess the well-being of employees at the UT. These included, amongst others, the perceived workload of employees, average weekly overtime, perceived aggression at work, satisfaction with the University of Twente, whether employees called in sick/took vacation days for getting work done. Although the antecedents of these variables were not examined, these variables were included to measure employee well-being at the UT.

Finally, two open questions were included which provided respondents the possibility to indicate (1) what they most like about their job/the University of Twente and (2) what they perceived to be major points for improvement in their job at the UT. The last question of the survey was also an open question to let the respondents free to put all remarks they want.

## 3 FINDINGS ON WORK ENGAGEMENT, STRAIN AND OTHER WELL-BEING INDICATORS

This chapter reports on the main findings of the UT employee wellbeing research 2019. Appendix 1 contains the description of the survey methodology.

The chapter proceeds as follows. Section 3.1 describes the average scores on work engagement, strain and the overall satisfaction with the UT. Section 3.2 provides an overview of descriptive statistics on well-being related variables such as perceived workload, average weekly overtime and whether employees call in sick/took vacation days for getting work done. Section 3.3 concludes with the overview of the relationship between employee well-being (i.e. work engagement and strain) and its antecedents.

### 3.1 Satisfaction with the UT, work engagement and strain

As shown in Table 3.1, the average satisfaction with the University of Twente among the respondents is 7.2 (on a scale of 1-10). The average work engagement among the employees of the UT is 5.3 (on a scale 1-7, 1=never engagement, 7=always engaged). For strain the average/mean score is 3.21 (on a scale 1-5, 1=fully disagree, 5=fully agree).

The next two sub sections describe the average scores across faculties and support units and across job functions. Anova/Bonferroni analysis was used to investigate whether the differences are significant.

#### 3.1.1 Satisfaction, work engagement and strain across faculties and support units

Table 3.1 also shows the average scores across the different faculties/support units.

*Table 3.1: General satisfaction with UT, work engagement and strain per organizational unit*

Organizational unit	General satisfaction UT <sup>1</sup>		Work Engagement <sup>2</sup>		Strain <sup>3</sup>	
	Mean	SD	Mean	SD	Mean	SD
BMS	6.75	1.68	5.15	1.06	3.44	.97
ET	7.20	1.62	5.31	1.10	3.30	1.02
EEMCS/EW	7.28	1.43	5.32	.97	3.19	.92
TNW	7.37	1.36	5.43	1.05	3.11	.90
ITC	6.82	1.53	5.25	1.14	3.30	.91
AZ	7.58	0.91	5.64	.66	3.18	.69
CFM	7.49	1.03	5.42	1.16	3.11	.89
CES	7.19	1.17	5.23	.96	2.97	1.03
FEZ	6.46	1.07	4.51	1.22	3.42	.89
HR	7.20	1.18	5.34	.90	3.13	.90
LISA	7.41	1.24	5.08	1.31	3.19	.91
M&C	7.79	0.98	5.44	.86	3.00	.91
S&B	7.50	0.89	5.39	.87	3.32	.70
University of Twente	7.20	1.42	5.30	1.06	3.21	.94

<sup>1</sup> Scale = 1 to 10

<sup>2</sup> Scale = 1 to 7

<sup>3</sup> Scale = 1 to 5

SD = standard deviation

# UNIVERSITY OF TWENTE.

## *Average satisfaction with UT across faculties and support units*

The Anova/Bonferroni analysis show that the mean score for satisfaction with the UT is significantly lower for BMS in comparison to EWI, TNW, CFM, LISA and M&C ( $p < .05$ ). Moreover, the mean score for satisfaction with the UT is significantly lower for ITC and FEZ in comparison to M&C ( $p < .05$ ). The remaining mean scores for satisfaction with the UT do not significantly differ across organizational units.

## *Average work engagement across faculties and support units*

The mean score for work engagement is significantly lower for FEZ in in comparison to ET, EWI, AZ, CFM, and M&C ( $p < .05$ ). The remaining mean scores for work engagement do not significantly differ across organizational units.

## *Average strain across faculties and support units*

The mean score for strain is significantly higher for BMS in comparison to TNW and CES ( $p < .01$ ). The remaining mean scores for strain do not significantly differ across organizational units.

### 3.1.2 Satisfaction, work engagement and strain across job functions

Table 3.2 presents the difference in mean scores of satisfaction with the UT, work engagement and strain across different functions.

*Table 3.2: General satisfaction with UT, work engagement and strain per function*

Function	General satisfaction UT <sup>1</sup>		Work Engagement <sup>2</sup>		Strain <sup>3</sup>	
	Mean	SD	Mean	SD	Mean	SD
PhD Candidate / PhD Student	7.65	1.24	5.21	1.12	3.28	0.96
Researcher / Postdoc	7.38	1.56	5.23	1.25	3.15	0.95
Teacher	6.54	1.60	4.97	1.03	3.21	1.06
Assistant Professor	6.62	1.75	5.24	1.11	3.56	0.91
Associate Professor	6.76	1.45	5.39	0.82	3.57	0.91
Full professor	6.81	1.63	5.89	0.72	3.58	0.71
Manager (support service)	7.65	1.07	5.72	0.81	3.37	0.84
Manager (faculties)	7.63	0.79	5.83	0.69	3.40	0.96
Support staff	7.40	1.08	5.31	1.03	3.00	0.91
Respondent preferred not to discuss function	6.13	1.96	4.88	1.19	3.35	0.89

<sup>1</sup> Scale = 1 to 10

<sup>2</sup> Scale = 1 to 7

<sup>3</sup> Scale = 1 to 5

SD = standard deviation

## *Average satisfaction with UT across job functions*

Table 3.2 shows that PhD Students and Managers are the most satisfied of all employees at the UT. Also Support staff report to be highly satisfied. Scientific staff (Teachers, Assistant,

## UNIVERSITY OF TWENTE.

Associate and Full Professors) show the least satisfaction with UT. The differences between scientific staff (Teachers, Assistant, Associate and Full Professors) on the one hand and the PhD Students, Support staff and Managers on the other hand are significant ( $p < .05$ ). Also the mean score for satisfaction with UT is significantly lower for those who preferred not to disclose their function and the other function categories ( $p < .05$ ).

### *Average work engagement across job functions*

As can be seen in Table 3.2, of all employees, Full Professors are the most engaged. In fact, the mean score for work engagement is significantly higher for Full Professors in comparison to PhD candidates / PhD students, Researchers / Postdocs, Teachers, Assistant Professors, Support Staff and those who preferred not to disclose their function ( $p < .05$ ). Moreover, the mean score for work engagement is significantly higher for Managers (support services) in comparison to PhD candidates / Phd students, Teachers, and those who preferred not to disclose their function ( $p < .05$ ). Surprisingly, the results show that Researchers / Post-docs, Teachers, Assistant Professors and Associate Professors do not significantly differ in the extent to which they are engaged at work.

### *Average strain across job functions*

Table 3.2 shows that Full Professors are also the most strained of all employees at the UT. At the same time, the average level of strain reported by Full Professors does not significantly differ from other scientific staff members (e.g. Assistant or Associate Professors). Support Staff employees report to be least strained of all employees. In fact, the mean score for Strain is significantly lower for Support Staff in comparison to PhD candidates / Phd students, Assistant Professors, Associate Professors, Full Professors and those who preferred not to disclose their function ( $p < .05$ ).

### 3.1.3 Satisfaction, work engagement and strain across country of birth

Table 3.3 presents the difference in mean scores of satisfaction with the UT, work engagement and strain across different countries of birth: we made distinctions between, the Netherlands, Europe and non-Europe.

*Table 3.3: General satisfaction with UT, work engagement and strain per country of birth*

<i>Country of birth</i>	<b>General satisfaction UT<sup>1</sup></b>		<b>Work Engagement<sup>2</sup></b>		<b>Strain<sup>3</sup></b>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
NL (N=1048)	7.23	1,285	5.33	0.972	3.14	0.900
Europe (N=140)	7.16	1,542	5.19	1.228	3.50	1.004
non-Europe (N=135)	7.80	1,559	5.46	1.220	3.39	1.038
I prefer not to disclose country of birth (N=106)	6.06	1,856	4.76	1.380	3.41	0.967

<sup>1</sup> Scale = 1 to 10

<sup>2</sup> Scale = 1 to 7

<sup>3</sup> Scale = 1 to 5

SD = standard deviation

# UNIVERSITY OF TWENTE.

## *Average satisfaction with UT across country of birth*

Table 3.3 shows that employees from outside Europe are the most satisfied employees (significantly different with the other categories;  $p < .05$ ). Also, the mean score for satisfaction with UT is significantly lower for those who preferred not to disclose their nationality and the other categories ( $p < .05$ ). The differences between the employees with the Netherlands or Europe as a country of birth are not significant.

## *Average work engagement across country of birth*

As can be seen in Table 3.3, of all employees, those born outside Europe are the most engaged, however this result is not significant. The only significant result is the mean score for work engagement those who preferred not to disclose their function with the other three categories ( $p < .05$ ).

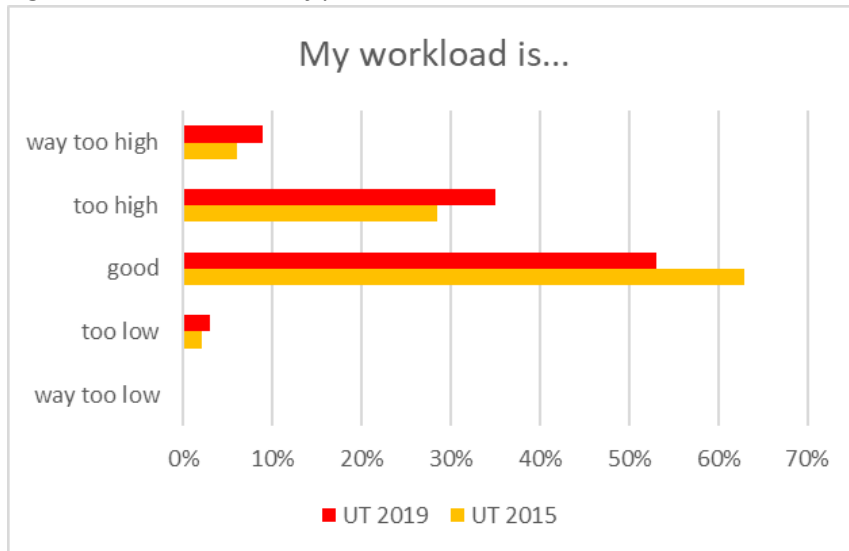
## *Average strain across country of birth*

Table 3.3 shows that employees born in The Netherlands are the least strained of all employees at the UT. This is the only significant result ( $p < .05$ ) of the differences in the mean score of strain. This result could be explained by the fact that most people from Support staff are from the Netherlands, also the least strained category of employees.

### **3.2 Perceived workload**

Similar to the UT Employee Satisfaction survey that took place in 2015, the UT employees were asked during the current survey (in 2019) to report on their workload. The respondents had indicate whether they perceived their workload to be (1) way too high, (2) too high, (3) good, (4) too low, or (5) way too low. As can be seen in Figure 3.1., the results indicate an increase in the percentage of employees who perceive that their workload is (way) too high. As a matter of fact, in 2019, 44% of the respondents perceive their workload to be (way) too high.

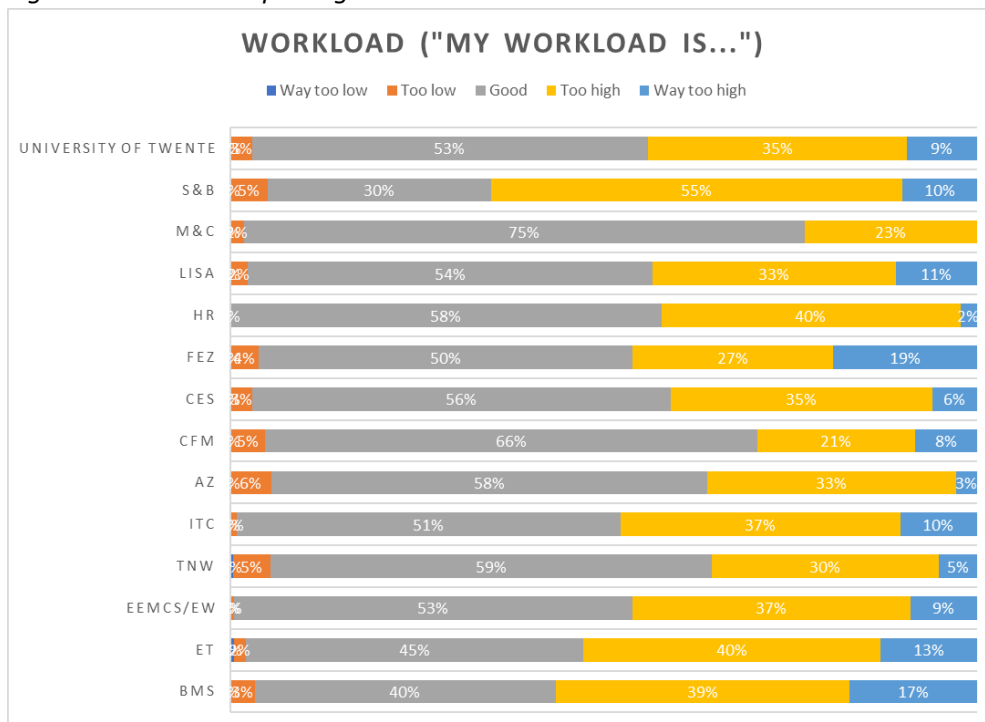
Figure 3.1: Distribution of perceived workload in 2015 and 2019



**3.2.1 Distribution of perceived workload across faculties and support units**

Figure 3.2. presents the workload distribution scores per organizational unit. As can be seen, the organizational units where the majority of employees (i.e. > 50%) perceive workload to be (way) too higher are BMS, ET and S&B. Organizational units where more than 10% of the employees experience a workload that is considered way to high include BSM, ET, ITC, FEZ, LISA and S&B. Organizational units where a large majority of employees (> 60%) perceived their workload to be good include M&C and CFM.

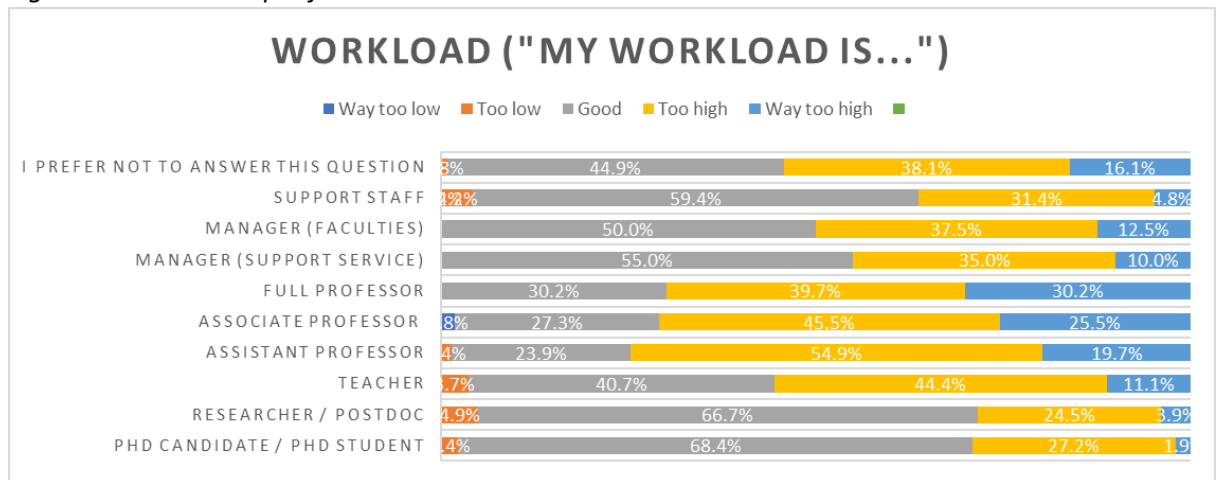
Figure 3.2: Workload per organizational unit



**3.2.2 Distribution of perceived workload across functions**

Figure 3.3. presents the workload distribution scores per organizational unit. As can be seen, more than 70% of the assistant professors, associate professors and full professors find their workload (way) too high. Among teachers, 55% finds its workload (way) too high). The percentage of managers and support staff who find their workload (way) too high lies between 35% and 50%. The majority (approximately 66%) of PhD candidates/researchers and postdocs finds its workload good.

Figure 3.3: Workload per function



**3.3 Overtime**

This section reports on the results on overtime by showing the results of the self-assessed average number of hours per week beyond contractual hours per week and two additional questions on the number of days taking vacation or calling in sick to finish the work.

**3.3.1 Overtime across organizational units and functions**

Table 3.4 shows the number of average weekly number of hours of overwork. These numbers are calculated as the difference between the (1) average number of hours which an employee actually works a week during the last three months (self-report by employee) and (2) the number of hours an employee has to work according to his/her contract (self-report by employee). As can be seen in Table 3.4 the average employee at the UT reports to work 4.2 hours more per week in comparison to what s/he is expected to work according to his/her contract. The average overtime is the highest at ET (on average, 6.3 hours of overwork per week) and BMS (on average, 6.0 hours of overwork). In fact, the mean score for weekly overtime is significantly higher for BMS and ET in comparison to CFM, CES, FES and LISA ( $p < .05$ ). The remaining mean scores for weekly overtime do not significantly differ across organizational units.

Table 3.4: Average overtime per week (in hours)

Organizational unit	Weekly overtime	
	Mean	SD
BMS	6.0 <sup>a</sup>	7.74

## UNIVERSITY OF TWENTE.

ET	6.3 <sup>a</sup>	8.15
EEMCS/EW	4.3	7.94
TNW	4.5	7.83
ITC	4.9	6.85
AZ	3.8	4.86
CFM	2.2	5.35
CES	1.7	4.87
FEZ	-.3	7.80
HR	2.6	3.90
LISA	2.1	4.79
M&C	2.6	5.47
S&B	3.8	7.02
University of Twente	4.2	7.25

SD = standard deviation

Table 3.5 presents the results on overtime per function. These numbers are in line with the results presented in Figure 3.3. Full Professors are reporting the most overtime per week (around 38% of their contractual amount of hours). Associate and Assistant Professors report also huge overtime hours, more than 20% of their contractual amount of hours. Next come Managers, with 15% of contractual hours. Then PhD Students, Researchers and Teachers, with more than 10%. Support staff work on average 5% extra hours.

*Table 3.5: Average overtime per function per week (in hours)*

Function	Weekly overtime	Standard deviation
PhD Candidate / PhD Student	5.3	7.1
Researcher / Postdoc	4.5	6.3
Teacher	5.2	6.7
Assistant Professor	8.8	8.8
Associate Professor	9.5	8.2
Full professor	14.5	9.4
Manager (support service)	6.1	7.9
Manager (faculties)	6.1	5.4
Support staff	2.1	4.7

These numbers on overtime are similar in comparison to other universities. According to the Rathenau Instituut (Koens et al., 2018), researchers at universities spend on average about 25% of their contractual hours extra. The higher the function, the more overtime. Most quoted reason is that time spent on teaching and management activities exceeds the formal agreements.

In Appendix 6 (Time spent on specific tasks) the results are presented on how much time each function group on average spend on six core tasks: teaching, research, valorization, management, administration and meetings. Not surprisingly some results stand out:

- Full professors spend too little time on research and too much time on teaching. They spend however far too much time on management, administration and meetings. 80% of them agree that they spend too much time on administration.



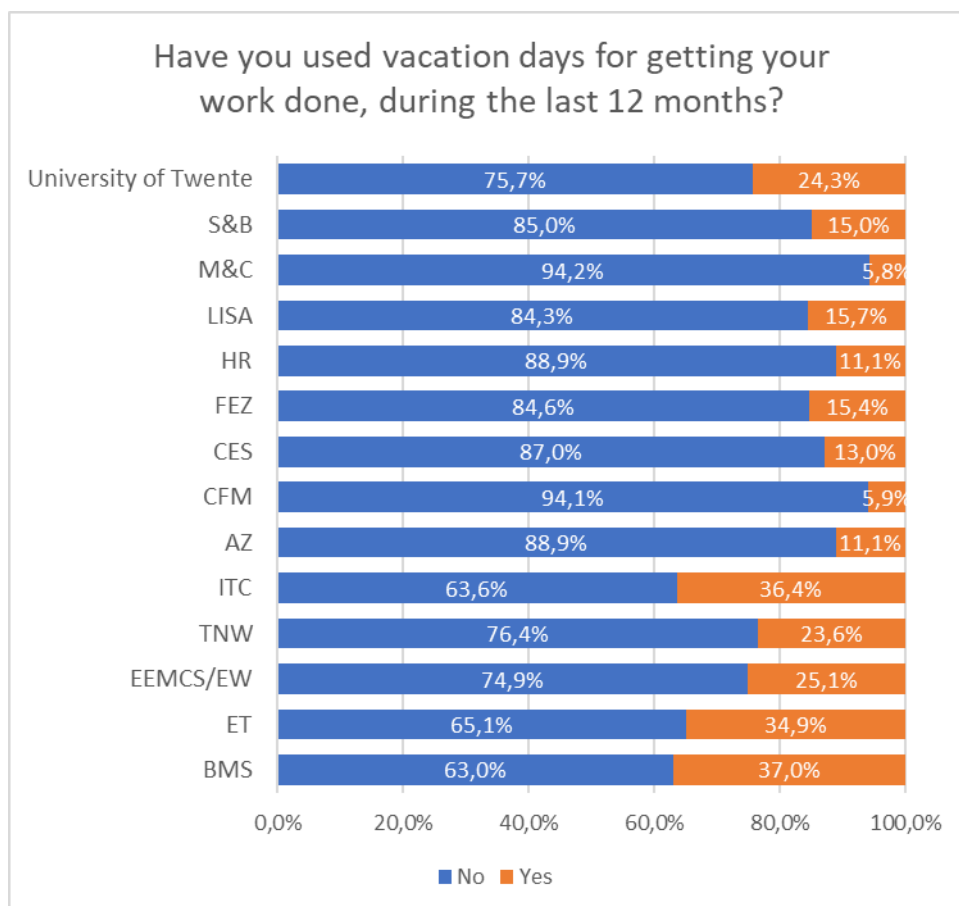
## UNIVERSITY OF TWENTE.

- For Associate and Assistant Professor similar results are visible. Especially Assistant Professors spend too much time on teaching. Associate Professors also spend too much time on management and administration.
- Support staff spend too much time on meetings and administration.

### 3.3.2 Taking vacation days to complete work activities

Figure 3.4 shows the percentage of employees who reported to take / use vacation days for getting work done. As can be seen, almost 25% of the employees have used vacation days to get work done and/or continue working during vacation/leave. This percentage seems to be caused by the fact that many employees (up to ~35% at ITC, ET and BMS) working in the faculties use vacation days to get work done and/or continue working during vacation/leave.

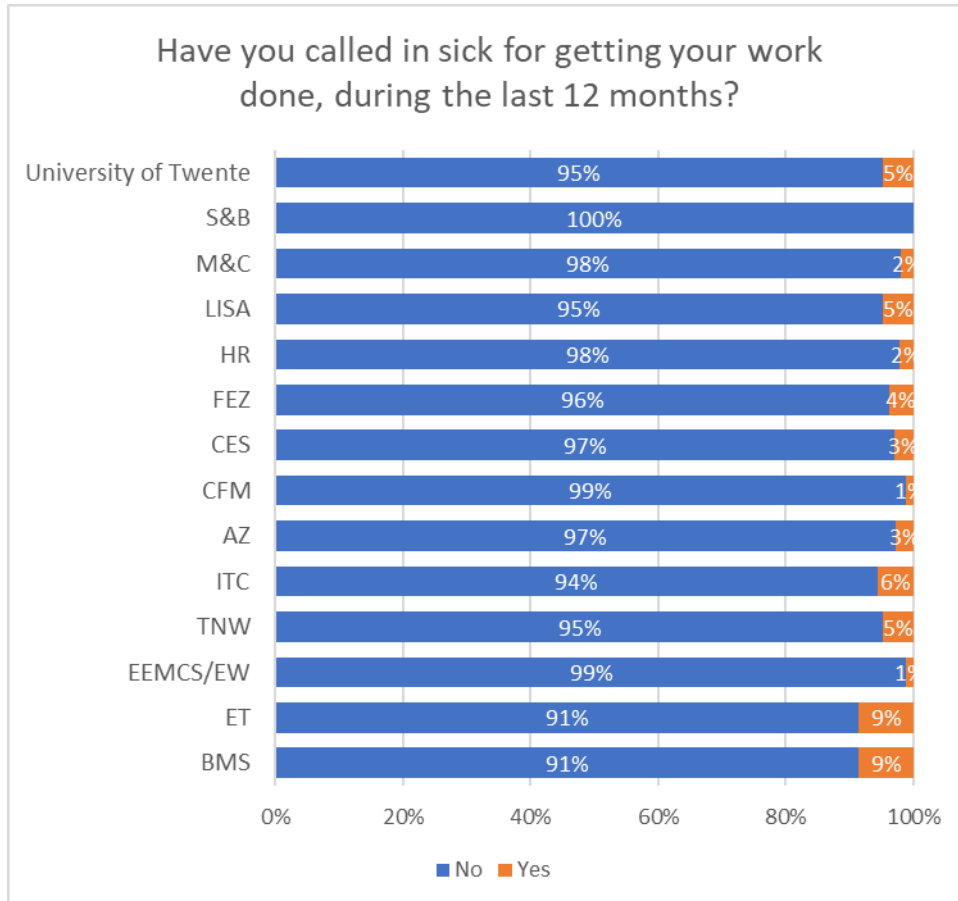
Figure 3.4: Vacation days used to finish work



**3.3.3 Calling in sick to complete work activities**

Figure 3.5 shows the percentage of employees who reported to take sick leave / call in sick for getting work done. As can be seen, 5% of the UT employees report to have done so in the last 12 months. The percentage of employees who call in sick to complete work activities is the highest at BMS and ET (both 9%).

Figure 3.5: Sick leave used to finish work



**3.4 Correlations**

Table 3.6 presents the correlations among the variables included in the current well-being study. These correlations provide a first indication for the observed difference in employees' work engagement, strain and workload perceptions.

**3.4.1 Correlates of work engagement**

As can be seen in Table 3.6, work engagement is positively correlated with age ( $r = .09, p < .01$ ) and tenure ( $r = .06, p < .05$ ). This implies that older employees and those who have worked for the UT for a long time are more engaged than younger employees and those

## UNIVERSITY OF TWENTE.

who joined the UT more recently. Also, engaged employees seem to be more satisfied with the UT ( $r = .42, p < .01$ ).

### 3.4.2 Correlates of strain

As can be seen in Table 3.6, strain is positively correlated with education ( $r = .21, p < .01$ ). This implies employees with a higher level of education (i.e. PhD) are more likely to experience strain than those with lower levels of education (e.g. bachelor or master). This finding is in line with the observation that assistant/associate/full professors experience higher levels of workload in comparison to e.g. support staff and PhD students. Age and tenure are not correlated with strain. However, strain is negatively correlated with gender ( $r = -.06, p < .05$ ). This finding implies that female employees experience less strain compared to male employees. Although it is a small effect, it is a significant association. Finally, employees who experience strain are less satisfied with the UT in comparison to those who experience little strain ( $r = -.26, p < .01$ ).

### 3.4.3 Correlates of workload / role overload

Table 3.6 shows that workload / role overload is positively correlated with age ( $r = .15, p < .01$ ), education ( $r = .20, p < .01$ ) and tenure ( $r = -.14, p < .01$ ). This implies that role overload and high-level workload is more likely to occur among older workers, with a higher education and those who have worked at the UT for a longer time. The positive correlation between education and role overload is again in line with the finding that assistant/associate/full professors experience higher levels of workload in comparison to e.g. support staff and PhD students. Finally, employees who experience high-level workloads are less satisfied with the UT ( $r = -.30, p < .01$ ).

In an additional Anova/Bonferroni analysis we found no significant ( $p < .05$ ) differences between workload / role overload and country of birth; only those who preferred not to answer their country of origin indicated to have a higher mean of workload.

### 3.4.4 Gender

The correlation table (Table 3.6) indicated some interesting results on gender. As stated earlier, female employees experience less strain ( $r = -.06, p < .05$ ). Female workers also experience less self-efficacy ( $r = -.09, p < .05$ ). Compared to men, women report higher on increasing social resources ( $r = .08, p < .01$ ) and lower on structural resources ( $r = -.06, p < .05$ ). Despite the small sizes of these correlations, they indicate that female employees are less strained and are better in increasing social resources, such as asking for coaching and feedback. Male employees are slightly better in increasing structural resources, such as developing professional capabilities and learning new things.

All other differences between male and female workers are not significant.

# UNIVERSITY OF TWENTE.

Table 3.6: Correlations among employee-wellbeing and its antecedents

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1. Age	42	12																		
2. Education	x	x	-.25**																	
3. Gender	.52	.50	-.10**	-.17**																
4. Tenure	11	10	.75**	-.29**	-.10**															
5. Satisfaction with UT	7.19	1.44	-.14**	-.12**	.07**	-.13**														
6. Satisfaction with HRM	3.91	.72	-.16**	.04	-.01	-.16**	.51**													
7. Increasing Structural Resources	5.35	.89	-.06*	.15**	-.06*	-.07*	.29**	.35**												
8. Increasing Social Resources	4.43	1.13	-.30**	.04	.08**	-.27**	.22**	.23**	.25**											
9. Increasing Challenging Demands	.65	.48	.04	.17**	-.07*	.01	-.02	.02	.34**	.26**										
10. Role Clarity	3.95	.65	.14**	-.09**	.06*	.13**	.25**	.29**	.36**	.07**	.10**									
11. Role Overload	3.50	.71	.15**	.20**	-.05	.14**	-.30**	-.28**	-.07**	-.08**	.21**	-.15**								
12. Leader-Member exchange	3.65	.82	-.02	-.02	.02	.00	.40**	.45**	.39**	.27**	.07**	.54**	-.21**							
13. Team Cohesion	4.10	.64	.02	-.01	.07*	.04	.27**	.30**	.26**	.17**	.12**	.32**	-.13**	.38**						
14. Autonomy	4.03	.72	.02	.12**	-.03	.00	.28**	.32**	.51**	.02	.17**	.43**	-.14**	.46**	.27**					
15. Self-Efficacy	4.09	.61	.25**	-.08**	-.09**	.20**	.00	.02	.18**	-.11**	.21**	.44**	-.02	.13**	.16**	.24**				
16. Commitment	3.56	.60	.09**	-.07**	.02	.08**	.53**	.37**	.33**	.23**	.21**	.27**	-.12**	.35**	.38**	.25**	.18**			
17. Work Engagement	5.30	1.06	.09**	-.02	.02	.06*	.42**	.40**	.65**	.25**	.31**	.44**	-.13**	.47**	.40**	.39**	.31**	.52**		
18. Strain	3.21	.94	.02	.21**	-.06*	.04	-.26**	-.23**	-.10**	-.02	.17**	-.18**	.43**	-.23**	-.17**	-.15**	-.13**	-.13**	-.25**	

\*\*\* p < .001, \*\* p < .01, \* p < .05

## 3.5 Relating employee well-being with its antecedents

To examine the relationships between well-being and its antecedents (including: HRM, job crafting, autonomy, self-efficacy, leader-member exchange, commitment and team cohesion), we tested the conceptual model as outlined in Chapter 2. For an overview of the average score of each antecedent (across organizational units) we refer to Appendix 3. The most important results are highlighted in **bold**.

To examine these relationships, we first assessed – through structural equation modelling in AMOS – how well the conceptual model fitted the survey data. For an overview of these model improvements, we refer to Appendix 4. This procedure resulted in a model that had a close to acceptable model fit ( $\chi^2(921) = 3808.99$ ;  $p = .00$ ; CFI = .88; GFI = .85; RMSEA = .05) and which was used to examine the relationship between employee well-being and its antecedents. Figure 3.6. provides an overview on the relationships among the key variables of interest. For the sake of visibility, we only include the relationships which were found to be significant ( $p < .05$ ) and exclude the significant relationships among the job resources/job demands. The full overview of the observed relationships can be found in Appendix 5.

First, as can be seen in Figure 3.6., work engagement is most strongly and positively influenced by commitment ( $\beta = .16$ ,  $p < .001$ ) and self-efficacy ( $\beta = .17$ ,  $p < .001$ ). This implies that **employees who experience a strong bond with the UT and who are confident in their abilities to execute their job are more likely to experience high-level work engagement** than those who do not experience this bond and are insecure about their abilities. Strain, on the other hand, is most strongly and positively influenced by role overload ( $\beta = .45$ ,  $p < .001$ ). This shows that **those who experience their workload to be too high are more likely to experience cognitive irritation (e.g. worry about problems at work)**. On the other hand, self-efficacy ( $\beta = -.17$ ,  $p < .001$ ) and leader-member exchange ( $\beta = -.13$ ,  $p < .01$ ) are negatively related with strain. This implies that **employees' strain decreases when the confidence in their abilities and relationship with their supervisor/manager improve**.

Second, in most cases, job crafting and satisfaction with HRM are indirectly related with work engagement and strain through the mediating role of job demands and job resources. An exception is the direct and positive relationship between job crafting and work engagement ( $\beta = .72$ ,  $p < .001$ ). This shows that employees can improve their dedication and vigor at work through pro-actively increasing structural job resources (e.g. knowledge and skills), increasing social job resources (e.g. feedback) and increasing challenging job demands (e.g. taking on additional responsibilities they find intellectually stimulating). In the other cases, job crafting and satisfaction with HRM are indirectly related with work engagement and strain.

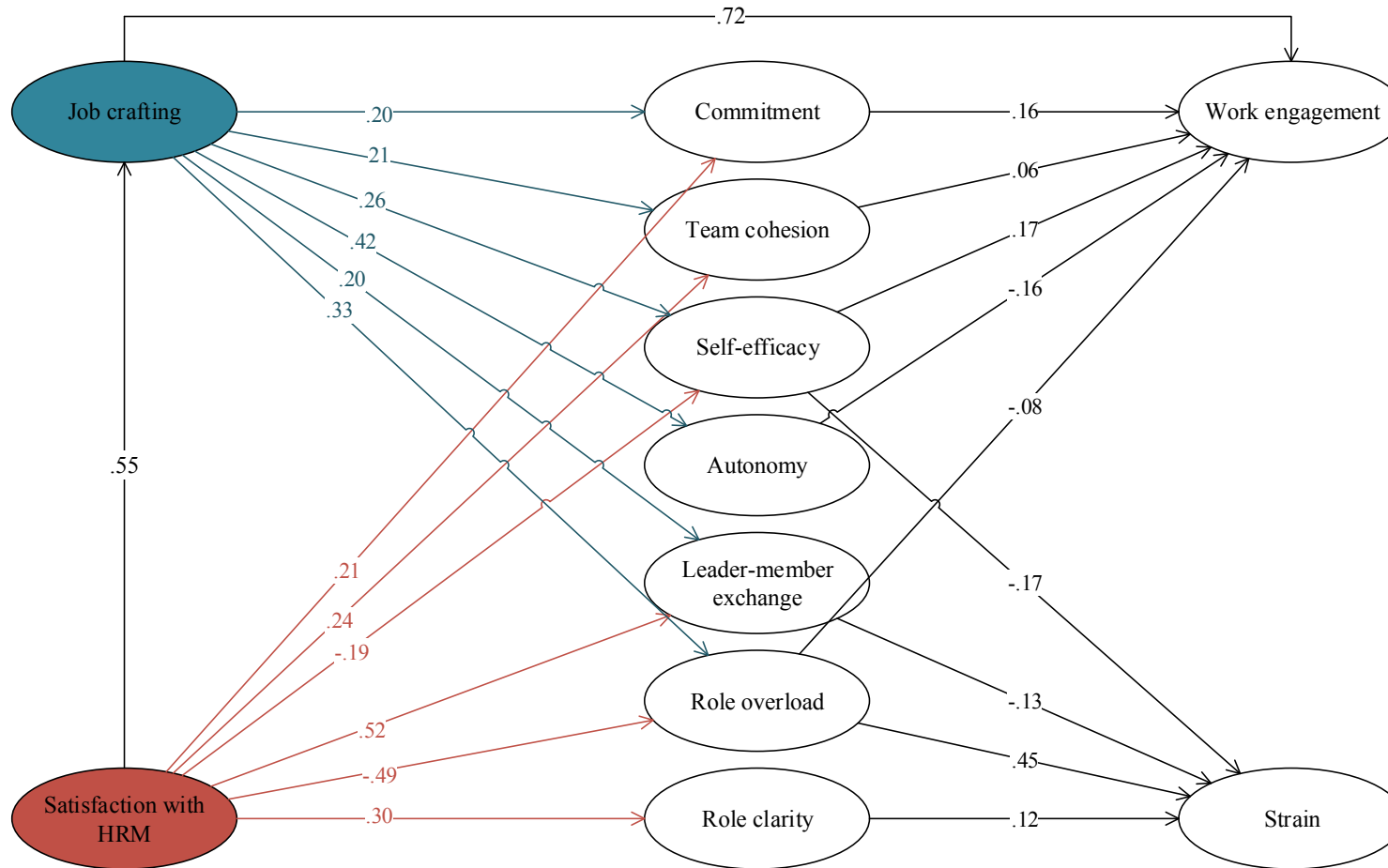
Third, Figure 1 shows that satisfaction with HRM is indirectly and positively related with work engagement through its positive effects on team cohesion ( $\beta = .24$ ,  $p < .001$ ) and commitment ( $\beta = .21$ ,  $p < .001$ ), and negative effect on role overload ( $\beta = -.49$ ,  $p < .001$ ). This implies that **satisfaction with HRM relates positively with work engagement, because it provides employees a feeling they strongly belong to a team and to the UT, while reducing their workload perceptions. Satisfaction with HRM is indirectly and negatively**

related to strain through its positive relationship with leader-member exchange ( $\beta = .52, p < .001$ ).

Fourth, the positive, indirect relationship between job crafting and work engagement can be best explained by the finding that job crafting relates positively to commitment ( $\beta = .20, p < .001$ ), team cohesion ( $\beta = .21, p < .001$ ) and self-efficacy ( $\beta = .26, p < .001$ ). This shows that **job crafting helps to improve work engagement when it provides employees a feeling of belongingness to their team and the UT and offering employees confidence in their abilities.** Finally, **job crafting and strain are indirectly and negatively related as job crafting is positively related with self-efficacy ( $\beta = .26, p < .001$ ) and leader-member exchange ( $\beta = .20, p < .001$ ).**

Finally, Figure 1 presents several unexpected results. First, role clarity is positively related with strain ( $\beta = .12, p < .05$ ) which implies that **less ambiguity in one's job results in higher levels of strain.** This could be explained by the notion that employees who experience high-level role clarity are also better aware of the main responsibilities they might have and experience these responsibilities as a burden. Second, we found that satisfaction with HRM is negatively related with self-efficacy ( $\beta = -.19, p < .01$ ). As we rely on cross-sectional data, we cannot rule out the possibility that self-efficacy is a causal condition to satisfaction with HRM. Namely, those with high-level (experienced) knowledge, skills and abilities may be more critical about / have higher expectations of HRM activities, which causes them to be dissatisfied with HRM activities (e.g. perceived that training and feedback are not helpful as they do not improve their skills). Third, we found that job crafting is positively related with role overload ( $\beta = .33, p < .001$ ). This implies that **employees who frequently engage in job crafting experience higher levels of workload than those who do so infrequently.** A reason for this might lie in the notion that job crafting is time consuming (e.g. improving skills, requesting feedback) and involves taking on additional responsibilities (i.e. increasing challenging demands) which cause higher levels of workload. Finally, our analysis shows that **autonomy is negatively related with work engagement** ( $\beta = -.16, p < .01$ ). This can be explained by the idea that autonomy can also have a controlling effect and be perceived as a job demands that reduces work engagement when employees take the freedom associated with autonomy to take too many responsibilities on their shoulders.

Figure 3.6: Significant relationships among the variables of interest (at  $p < .05$ ).



Significant relationships among job demands/job resources are excluded, for reasons of simplicity and overview.

## 4 FINDINGS ON PERCEIVED AGGRESSIVE BEHAVIORS

The survey included three extra questions on employee experiences of aggressive behaviors at work. These questions were included to satisfy the obligation of the *Risico- Inventarisatie & -Evaluatie* of the ARBO-law. As shown in Table 4.1, although 82% of the respondents did not experience any type of aggressive behaviors during the last two years, 14% (18% minus 4% who preferred not to answer) reported to have experienced a type of aggression at work during the last two years. This is in line with results on aggressive behavior in (higher) education (TNO, 2012; TNO, 2016). The most frequently reported type of aggression (by 8% of the respondents) is intimidation at work, such as shouting and threats. Nine respondents indicated to have been subject to sexual harassment and six respondents indicated to have been subject to physical violence during the last two years.

Two remarks are important on the interpretation of these results. First, it is good to remind that respondents could have been tick more than one category, so it could possibly be that some respondents have experienced more than one of the aggressive behaviors. The same applies for Table 4.2 and 4.3. Second, we do not report on comparisons between gender, age, tenure, country of birth, job functions and organizational unit because of the low numbers. Low numbers of observations can easily lead toward Type-1 mistakes, indicating that the hypothesis that there is a significant difference would have been rejected unjustified. Due to low numbers, the null hypothesis could be rejected falsely, inferring the existence of something that is in fact not real (e.g. we might suppose a difference between group, which is not true but just a coincidence).

*Table 4.1: During the last two years, have you experienced one or more of the following aggressive behaviors against yourself at the UT?*

	N	%
No	1155	82%
Bullying	53	4%
Discrimination	48	3%
Intimidation (shouting, threats, etc.)	115	8%
Sexual harassment	9	1%
Physical violence	6	1%
Yes, but none of the aforementioned forms of aggression	59	4%
I prefer not to answer this question	61	4%

Table 4.2 presents the findings on those who have been a witness of aggression at work. As shown, 20% (24% minus 4% who preferred not to answer) reported to have been a witness of a type of aggression at work during the last two years. Again, intimidation at work is more frequently reported (by 10% of the respondents). This finding is similar with outcomes from national surveys that report intimidation to be the largest proportion of aggressive behaviors (TNO, 2016).



## UNIVERSITY OF TWENTE.

*Table 4.2: During the last two years, have you been a witness of any of the following aggressive behaviors at the UT?*

	N	%
No	1077	76%
Bullying	89	6%
Discrimination	75	5%
Intimidation (shouting, threats, etc.)	144	10%
Sexual harassment	19	1%
Physical violence	9	1%
Yes, but none of the aforementioned forms of aggression	72	5%
I prefer not to answer this question	58	4%

Table 4.3 shows that employees most often share their experiences of aggression behavior with their colleagues (16%) or supervisor (8%).

*Table 4.3: If you perceived aggressive behaviors against yourself or others, did you share your experience(s) with others?*

	N	%
Not applicable	1058	76%
Yes, with colleagues	227	16%
Yes, with my supervisor	117	8%
Yes, with somebody from HR	41	3%
Yes, with a confidential	26	2%
Yes, with someone from the UT, but none of the persons mentioned above	45	3%
I did not share this experience with others	29	2%

## 5 FINDINGS ON SATISFACTION WITH FACILITIES AND TOP-3

### 5.1 Satisfaction with ARBO and campus facilities

The survey included about ARBO (work conditions) and other services of the UT. In Table 5.1 the results of the means and standard deviations (between brackets) are presented. On average, the respondents indicate to be satisfied with the library, cultural activities, sport facilities and lecture room facilities on campus. The respondents are least satisfied with the catering services on campus.

*Table 5.1: Satisfaction with services: means per organizational unit (standard deviation)*

	Arbo facilities (company doctors, health services, psychologists)	Catering	Library	Cultural activities	Sport facilities	Lecture rooms
BMS	3,44 (0,93)	2,94 (1,10)	3,93 (0,85)	3,84 (0,83)	4,19 (0,80)	3,82 (0,86)
ET	3,67 (0,95)	2,45 (1,06)	3,83 (0,82)	3,74 (0,78)	4,28 (0,69)	3,57 (0,94)
EEMCS/EW	3,69 (0,87)	2,86 (1,04)	3,87 (0,77)	3,93 (0,70)	4,27 (0,72)	3,69 (0,83)
TNW	3,79 (0,83)	2,74 (1,06)	3,83 (0,79)	3,98 (0,74)	4,31 (0,71)	3,62 (0,80)
ITC	3,67 (1,04)	3,40 (1,03)	4,24 (0,72)	3,71 (0,78)	4,12 (0,84)	3,81 (0,78)
AZ	3,80 (0,91)	3,14 (1,12)	3,75 (0,64)	3,90 (0,70)	4,24 (0,83)	3,47 (0,80)
CFM	3,76 (0,78)	3,19 (1,03)	3,86 (0,68)	4,00 (0,79)	4,32 (0,76)	3,77 (0,69)
CES	3,72 (0,69)	2,79 (0,98)	3,79 (0,77)	3,95 (0,80)	4,18 (0,86)	3,43 (0,93)
FEZ	3,89 (0,74)	3,05 (1,02)	3,56 (0,73)	4,00 (0,71)	4,50 (0,52)	3,70 (0,82)
HR	4,00 (0,72)	3,02 (1,03)	3,85 (0,81)	4,16 (0,68)	4,42 (0,60)	3,38 (0,81)
LISA	3,76 (0,82)	2,86 (1,13)	4,26 (0,76)	4,07 (0,60)	4,39 (0,64)	3,88 (0,77)
M&C	3,85 (0,80)	3,04 (0,88)	3,70 (0,80)	4,09 (0,68)	4,38 (0,62)	3,47 (0,84)
S&B	3,79 (0,70)	3,20 (1,06)	4,25 (0,45)	4,33 (0,49)	4,56 (0,51)	3,80 (0,63)
Total	3,70 (0,87)	2,87 (1,07)	3,90 (0,79)	3,92 (0,76)	4,28 (0,74)	3,67 (0,85)

### 5.2 Top 3 best and top 3 to improve

In an open question, the respondents were asked to fill in the top-3 aspects they like most at the UT, and what the top-3 aspects that they most dislike.

Table 5.2 provides an overview of the aspects respondents most like about their job and work at the UT. Most often the respondents like the freedom and autonomy and independence at work. Colleagues and a good atmosphere to work in are also appreciated. Work itself is often valued and mentioned in three categories (4. the variety and diversity of the job and 5. the extent to which the job is challenging and interesting and 10. relevance and meaningful work). Finally, flexibility (in working hours) is valued as well.

# UNIVERSITY OF TWENTE.

*Table 5.2 What employees value in their work at the UT (frequencies)*

1. (Academic) freedom	195
2. Autonomy and independence	121
3. Colleagues and positive climate	97
4. Variety and diversity of jobs/tasks	80
5. Challenging and interesting work	58
6. Flexibility (especially working hours)	44
7. Working with students	42
8. Training & development	40
9. Payment and other conditions	38
10. Relevance and meaningful work	38
11. Other remarks	347
Missing	387
Total	1487

Table 5.3 provides an overview of what the respondents consider to be major points for improvement. In line with earlier results, work pressure (stress, work overload, etc) is mentioned most often, as well as bureaucracy and administration. Moreover, employees voice the need to improve HR policies and practices, and career possibilities at the UT.

*Table 5.3 Major points for improvement (frequencies)*

1. Work pressure (stress, work overload)	125
2. Administrative burden and bureaucracy	85
3. HR policies and practices (including salary)	72
4. Career possibilities	54
5. Catering	34
6. Communication	28
7. Other remarks	649
Missing	440
Total	1487

## 6 CONCLUSIONS

1. Work engagement of UT employees in general is high: on average 5.3 (scale 1-7). Work engagement is positively influenced by job crafting, affective organizational commitment and self-efficacy. The results on work engagement can be illustrated by the Top-3 positive aspects that respondents expressed in the survey. They appreciate the academic freedom of the job, the autonomy and the variety/diversity of the jobs. They experience their jobs to be interesting and challenging, and they like their colleagues.
2. The work pressure of UT employees in general is also high. The results on strain show a mean of 3.21 (scale 1-5). The relative high strain can be substantiated by a number of other workload-related findings. Perceived workload is for 53% of the employees good, for 44% (way) too high, implying an increase compared to the 2015 measurement: in 2015, 35% of the respondents reported a (way) too high workload. Next to it, 5% report to use sick days for getting the work done and 24% of the respondents is using vacation days for getting the work done. In addition, the weekly overtime in hours is 4.2, or in other words more than 10%. Especially, Full Professors, Associate and Assistant Professors are working overtime, up to 20-40 % of their contract hours. Work pressure is also the number 1 of the Top-3 negative aspects mentioned by the respondents. Next to work pressure, the administrative burden and bureaucracy and HR policies and career possibilities must be improved.
3. The overall satisfaction of employees with UT is a 7.2 (on a scale from 1-10), which is neither undesirable, nor good in comparison to other organizations.
4. Employee reports on work engagement and work pressure differ across employees. In general, the Full Professors show the highest work engagement and the highest strain of all employees at the UT. The average level of strain reported by Full Professors is similar to other scientific staff (such as Assistant or Associate Professors). Employees working for a faculty also report a higher number of overtime hours compared to those working in support service department. Female employees report lower levels of strain in comparison to males.
5. Work engagement is influenced by job crafting, organizational commitment and self-efficacy. Job crafting is directly related with work engagement, implying employees who pro-actively increase their knowledge and skills, ask feedback and take on extra responsibilities are more engaged. However, too much of job crafting results in higher levels of role overload and thus higher levels of strain. A difference is observed in types of job crafting: increasing challenges demands (such as to take on extra projects and extra responsibilities) is making the job more interesting, but also more straining. Increasing structural resources (especially male employees are pursuing this strategy in learning new things and developing professional capabilities) and increasing social resources (especially female employees are following this type by asking for coaching and feedback) seems to be better in enhancing work engagement and reducing strain.
6. Strain (work pressure) is most strongly influenced by role overload. In other words, performing many tasks (too many) is causing work pressure. Strain is positively influenced by self-efficacy and leader-member exchange. Confident employees show less strain. More interestingly, those who view the relationship with their

supervisor/manager better, report to be less strained. In other words, building trusting and high-quality relationships among supervisor/managers and their employees is an important mean for reducing strain. The results indicate an indirect and negative relation between strain and satisfaction with HRM (via leader-member exchange). The implication is that HRM practices help to control strain through improving the relationship between managers and their employees.

6. The prevalence of aggressive behaviors (especially intimidation) is comparable to the results of national surveys on these behaviors. One out of seven employees has experienced a type of aggressive behaviors during the last two years. Although these statistics represent similar numbers of national surveys, the results indicate some problems here, especially the finding that the confidential person is consulted the least frequently compared to supervisors, colleagues or other non-UT people.

## 7 RECOMMENDATIONS

1. To sustain/improve work engagement, we recommend the UT and its employees to invest in job crafting, commitment, team cohesion, self-efficacy and to reduce role overload.
2. To reduce work pressure, it is recommended to reduce role overload, ensure strong and trusting leader-membership relations, and to invest in high-quality HRM practices.
3. Job crafting in general will lead to a higher work engagement and lower strain, furthermore, also higher mobility and sustainable employability (which are important given the CAO) are influenced by job crafting practices. We recommend employees to engage in job crafting practices, yet do this with care since some job crafting activities reduce work engagement and/or increase work pressure. Especially job crafting that is focused on increasing challenging job demands should be avoided, since this increases role overload. In other words, seeking and executing extra jobs or projects can be seen making your job more interesting, however, that can lead to role overload and ultimately, higher levels of work pressure. Instead, job crafting activities focusing on increasing social resources (such as asking for coaching and feedback and investing in team cohesion) or increasing structural resources (such as developing knowledge and skills) can lead to less strain and more work engagement.
4. Investing in HRM practices does offer good possibilities to reduce strain and increase work engagement. Our findings indicate that better HRM can lead to higher affective organizational commitment, better team cohesion (including team sciences), better leader-member relations and less role overload. So, investing in HRM activities should focus on enhancing commitment and team cohesion. Moreover, building trusting and strong leader-member relations through HRM is important. After all, the supervisor/manager is the one who is implementing most of the HRM practices.
5. In line with the former suggestion, investing in the development of supervisors and managers is recommended. We found a negative relationship between leader-member exchange and strain. The supervisors and managers have an important role in implementing HRM practices for reducing strain. Therefore, investing in leadership skills in general and in specific skills to recognize possible strain signals, skills to coach employees in dealing with workload and skills in helping employees to reduce and prevent excessive workload.
6. Another recommendation is to invest in the reduction of some sources of overtime. Many employees work excessive hours. This can be explained by the observed high level of commitment to the UT and high-level work engagement. The respondents report to spend too much time on administration, management activities and meetings. Reducing administration tasks and bureaucracy must be prioritized.
7. Investing in career opportunities is also recommended. Many remarks were made on the downside of not offering permanent contracts to young staff members.
8. A special recommendation is to invest in a trusted climate to discuss aggressive and violent behaviors at work. Here, we particularly recommend to signal to employees the possibility to share their concerns with a confidential advisor. Now, only a limited amount of cases are shared with the confidential advisors.

## REFERENCES

- Bakker, A.B. and Demerouti, E. (2007), "The job demands-resources model: state of the art", *Journal of Managerial Psychology*, Vol. 22, pp. 309-28.
- Baruch, Y. & Holtom, B. C. (2008), "Survey response rate levels and trends in organizational research", *Human Relations*, Vol. 61 (8), pp. 1139-1160.
- Basu, R. & Green, S.G. (1997). Leader-Member exchange and transformational leadership: An empirical examination of innovative behaviors in leader-member dyads. *Journal of Applied Social Psychology*, 27, 477-499.
- Cook, C, Heath, F. & Thompson, R. L. (2000), "A meta-analysis of response rates in web- or internet-based surveys", *Educational and Psychological Measurement*, Vol. 60 (6), pp. 821-836.
- Costa, P.L., Passos, A.M. and Bakker, A.B. (2014), "Team work engagement: a model of emergence", *Journal of Occupational and Organizational Psychology*, Vol. 87, pp. 414-436.
- Demerouti, E., Bakker, A.B., Nachreiner, F. and Schaufeli, W.B. (2001), "The job demands-resources model of burnout", *Journal of Applied Psychology*, Vol. 86, pp. 499-512.
- Dorenbosch, R., Bakker, A., Demerouti, E. & Dam, K. van (2013). Job crafting: de psychologie van een baan op maat. *Gedrag en Organisatie*, 26, 3-15.
- Graen, G.B. & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of Leader-Member Exchange (LMX) theory of leadership over 25 years: Applying a multilevel multi-domain perspective. *Leadership Quarterly*, 6, 219-247.
- Kerlinger, F. N. (1986), *Foundations of behavioral research* (3rd ed.), New York: Holt, Rinehart & Winston.
- Koens, L. R. Hofman & J. de Jonge (2018), *Drijfveren van onderzoekers. Goed onderzoek staat nog steeds voorop*, Den Haag: Rathenau Instituut
- Morton, S. M. B., Bandara, D. K., Robinson, E. M. & Atatoa Carr, P. E. (2012), "In the 21st Century, what is an acceptable response rate?", *Australian and New Zealand Journal of Public Health*, Vol. 36 (2), pp. 106-108.
- Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly*, 15, 150 –163.
- Rogelberg, S. G., Luong, A., Sederburg, M. E. & Cristol, D. S. (2000), "Employee attitude surveys: Examining the attitudes of noncompliant employees", *Journal of Applied Psychology*, Vol. 85, pp. 284-293.
- ScienceGuide (2017), "Psychische gezondheid promovendi in gevaar", <https://www.scienceguide.nl/2017/04/psychische-gezondheid-promovendi-in-gevaar/>.
- TNO (2012). *Agressie op het werk; Ontwikkelingen, risico's, impact en behoefte aan maatregelen*, TNO: Hoofddorp.
- TNO (2016). *Agressie op het werk 2014; Ontwikkelingen, risico's, impact en behoefte aan maatregelen*, TNO: Leiden.

## APPENDIX 1: METHOD

### Organization of the research

In May 2018, a guiding expert group was installed. This group consisted of 10 members representing central and local indirect participation bodies (OPUT, university council, faculty and service councils), services and faculties. Moreover, for communicating the research an expert from the M&C department was involved. The last employee research (2015) and in particular the way of reporting caused several problems including issues related to a lack of confidentiality like results that could be traced back to individual employees. Moreover, the data analysis was limited to descriptive statistics (percentages, frequencies, mean values). Consequently, insight into relationships between variables was missing. The aforementioned problem lead to a restricted usability of the results: indeed, how to decide on which measures to take for limiting work pressure and enhancing satisfaction if insight into variable relationships is missing? Given this sketch of the past, the expert group decided not to outsource the research, but choose for an in-house approach and execution. Two experienced researchers of the HRM department, BMS faculty have been attracted to conduct the research. They designed the theoretical model and questionnaire and performed data-analysis. Data-collection was outsourced to a specialized company: Ipsos. By outsourcing data-collection and providing a link to employees outside the UT, an improvement of confidentiality is possible. In the case of this research, the researchers only received the raw data. Moreover, related to confidentiality, it was decided not to analyze on the level of teams and departments, but on the level of faculties and service departments. Moreover, concerning a number of questions employees could choose for the option "I prefer not wish to answer this question" (function, gender, country of birth and marital status).

The concept questionnaire and report on the background of the research has been presented to the executive board, OPUT and university council. The background report discussed the following contents: composition and decision-making of the expert group, theoretical model and explanation of the variables. To guarantee the questionnaires completeness, user-friendliness and language correctness, the university council requested pilot-testing. 13 UT employees participated in testing the Dutch and the English version of the questionnaire. The testers background was diverse and consisted of males and females, scientific and support staff, high educated and lower educated employees (for example, secretaries and professors), native and non-native English speakers and employees from technical faculties and BMS. The testing lead to language and content adaptations and additions.

### Data collection

The questionnaire was online from January 31<sup>st</sup> to February 21<sup>st</sup> 2019.

Several channels were used to inform employees about the research:

- An interview with the two researchers was published by UToday, two days before the start of data collection;
- All employees with a so-called m-number (medewerkers/employee number) received an invitation to participate by email including a link to the questionnaire, Dutch employees received the invitation in Dutch, all non-Dutch in English;
- Employees have been alerted three times by the online employee portal;



## UNIVERSITY OF TWENTE.

- HR managers informed their units several times;
- MT's informed their units several times;
- UT associations (e.g. ambassadors network, Female Faculty Network Twente, P-NUT) informed their members/network.

### Measures

The table below provides an overview of the measures used to measure the variables of interest, the source of the measure and its reliability/Cronbach alpha. For a complete overview of the survey items, we refer to Appendix 2.

Variable	Cronbach alpha	Source
Satisfaction with HRM	.80	Purcell & Hutchinson (2006)
Job crafting	.81	Tims et al. (2012)
Role overload	n/a – single item	UT Employee survey 2015
Role clarity	.76	Rizzo et al. (1970)
Leader-member exchange	.91	Graen & Uhl-Bien (1995)
Team cohesion	.82	Sargent & Sue-Chan (2001)
Affective organizational commitment	.75	Allen & Meyer (1990)
Autonomy	.86	Spreitzer (1995)
Self-efficacy	.80	Spreitzer (1995)
Work engagement	.93	Schaufeli et al. (2006)
Strain	.81	Mohr et al. (2006)

### Response and representativeness

#### Response rate: 47 percent

Employees with a temporary or permanent contract of employment with the UT and guest employees without an UT contract of employment have been invited to participate in the research. The main reason for requesting the participation of guest employees is the large group of PhD candidates without a contract of employment with the UT. 402 out of 1029 PhD candidates (39%; 21 February 2019; HR data) have no UT contract of employment. The HR service department has no data about this group that can provide insight into their well-being (for example sick leave data). Research among Dutch and Flemish PhD candidates showed that independent of the type of contract the mental well-being of PhD candidates often suffers (ScienceGuide, 2017). The non-response among UT guest employees was very high: only 82 out of 1303 guest employees (response rate: 6,29%) filled in the questionnaire. Given this high non-response, we unfortunately had to exclude guest employees from further analysis.

1434 out of 3078 employees participated in the research. Thus, the total response rate of employees with a temporary or permanent contract of employment with the UT was 46,6 percent.

# UNIVERSITY OF TWENTE.

A meta-analysis of response rates in organizational research covering more than 100,000 organizations and 400,000 individual employees shows that the average response rate for studies that utilized data collected from individual employees was 52.7 percent with a standard deviation of 20.4. The authors suggested a benchmark of around 50 percent for organizational studies seeking responses from individual employees (Baruch & Holtom, 2008). However, Kerlinger (1986) suggested that with regard to mail surveys “returns of less than 40 or 50 percentage common” (p. 380) and Cook et al. (2000) report a mean response rate for 68 surveys reported in 49 studies of 39.6% (SD = 19.6%). Moreover, there is some evidence that response rates are declining. Scholars mention disillusionment with science and research, increased frequency of contacts by research groups, and increasing complexity of life in the 21st Century as reasons of reduced research participation (Morton et al., 2012). Taking the aforementioned into account, we can conclude that the total response rate of our UT employee well-being research is acceptable.

## Representativeness

It should be noted that the response rate is just one element to consider in evaluating the quality of empirical studies. More important is that the respondents are representative of the population being studied: that they are not systematically different in any meaningful way from the overall group. In general, higher response rates will lead to a higher probability of a sample being representative of a population. Because representativeness is important, we investigated to what extent the sample is similar to the population on a number of personal characteristics: gender, tenure, function, country of birth and type of contract.

Personal characteristics	Population	Sample
Age	Average age: 42 years (WP&OBP)	Average age: 42 years (WP&OBP)
Gender	Males: 58%; Females: 42%	Males: 45%, Females: 43%; 12% did not want to give an answer (of the respondents that answered: 51% Male, 49% Female)
Tenure	12 years	11 years
Function	WP = 59%; OBP = 41%* Full professor=5% Associate professor=5% Assistant professor=10% PhD candidate=20%	WP=52%, OBP=48%* Full professor=4% Associate professor=4% Assistant professor=10% PhD candidate=14%
Country of birth	Dutch=74%, EU=12%, non-EU=15%	Dutch=73%, EU=12%, non-EU=9%
Type of contract	Permanent contract=59%, temporary contract=41%	Permanent contract=69%, temporary contract=25%, temporary with opportunity for permanent contract 6%

*Table 1: Comparison population and sample characteristics UT total (\*WP = scientific staff, OBP = support staff)*

Using a 10 percent difference as a demarcation line, table 1 shows that males and employees with a temporary contract are slightly underrepresented in the total sample. As a consequence, drawing conclusions related to these personal characteristics should be done with caution. The questions about gender, function and country of birth provided also the

## UNIVERSITY OF TWENTE.

following answer opportunity: “I prefer not to answer this question”. A relatively large number of respondents have chosen not to reveal information about these characteristics: 118 did not supply information about their function, 168 not about their gender and 106 not about their country of birth. If we take these into account, the sample characteristics on gender are more similar to the population, so representativeness is quite good.

In 2000, Rogelberg and his colleagues examined nonresponse bias by studying “non-compliers” who explicitly refused to take a satisfaction survey for their employers. Compared with people who indicated a willingness to participate in organizational surveys, noncompliers were shown to be less committed to their organizations, less satisfied with their supervisors and jobs, and more likely to quit. Noncompliers were also more inclined to believe that their employer would not act on survey data collected. The UT employee well-being questionnaire contained an item that offered participants the opportunity to express opinions: “We would like to give you the opportunity to explain your answers or to bring forward matters that are not included in this questionnaire”. Several participants shared grievances and the rather high standard deviation (SD) on ‘satisfaction with the UT’ shows that also those employees who are less satisfied are represented in the sample.

### **Explanations for non-response**

According to the company that conducted the UT employee research in 2015, the total response rate was 53 percent in 2015. The response rate of the well-being research 2019 was 46,6 percent, a total drop of more than 6 percent. What might be reasons for the declined total response? The introduction to the well-being research included an email address as well as the name of the project leader and urged employees to get in contact in the case of questions. The project leader received 25 mails and 4 telephone calls as well as dozens of face-to-face comments. A content analysis of remarks regarding the well-being research shows that seven comment categories can be identified. These categories or clusters of comments can provide insight into the causes of non-response.

- 1) Lack of trust concerning confidentiality. The largest amount of remarks concerned this issue. Employees remembered vividly the confidentiality issues of the research conducted in 2015. Despite the fact that employees could opt for answering several personal questions with “I do not prefer to answer this question” and the level of analysis was higher (not the team/department, but on the level of faculties and service departments), many of those who contacted the project leader remarked that they are not confident concerning confidentiality. The large majority of those who expressed no or a low level of ‘confidentiality trust’ referred to the 2015 research and were afraid that their responses might be shared with their supervisor on an individual level.
- 2) Promising a raffle. Another issue raised questions about the confidentiality. In the interview with UToday, the researchers announced that there would be a raffle among the respondents for an anti-stress workshop. However, it was forgotten to add the opportunity for leaving the email address in the questionnaire, so a raffle was not possible in the end. Several employees remarked “how can you do a raffle if you don’t know who participated, so you must know who did?”.

## UNIVERSITY OF TWENTE.

- 3) Lack of trust concerning implementation. Several employees declared that nothing has been done with the results of former employee research. This was mentioned as a reason for an unwillingness to invest precious time into research participation.
- 4) Too abstract level of analysis. One employee remarked that the level of analysis was too abstract. He expected that the research would include the opportunity that “something could be done about the circumstances in his team”.
- 5) Preference for research outside the UT. Two employees referred to the FNV/VAWO work pressure research among Dutch university employees and remarked that such a research would be better for a comparison across university and confidentiality issues.
- 6) Survey fatigue. Three employees wrote they had no interest in participating in another research and referred to a large number of requests to participate in research from inside and outside the UT.
- 7) Concerns on data security. Within 48 hours after informing employees about the start of the questionnaire, two researchers contacted the project leader. They had discovered that the link to the questionnaire had a http instead of a secure https link. Ipsos admitted this mistake, but guaranteed the link would be still secure. Ipsos transformed the http into a https link and after the first week of data collection the questionnaire reminder referred to the https link.

This input as well as qualitative expressions made by employees on the item “We would like to give you the opportunity to explain your answers or to bring forward matters that are not included in this questionnaire” will be used to improve the response for the next well-being research (2021/2022).

### Response organizational units

Table 2 reports on the response rates per organizational unit. The response rates concern employees with a temporary or permanent contract of employment with the UT.

Organisational Unit	Total number of employees (N) (date: 21/02/2019)	Number of respondents (n)	Response rate
BMS	472	211	44,7%
ET	465	186	40,0%
EEMCS/EWI	513	191	37,2%
TNW	712	276	38,8%
ITC	240	107	44,6%
AZ	60	36	60,0%
CES	152	100	65,7%
CFM	147	85	57,8%
FIN	44	26	59,1%
HR	55	45	81,8%
LISA	153	83	54,2%
M&C	74	52	70,3%
SP	32	20	62,5%

Table 2: Response rates per organizational unit

## UNIVERSITY OF TWENTE.

Table 2 shows differences in response rates between faculties and service departments. The response rates among service departments are all above 50 percent (response rates between 54,2% and 81,8%), but all faculty response rates are below 50 percent (response rates between 37,2% and 44,7%). Thus, compared to the service departments, relative lower response rates among faculty employees had a relatively strong effect on the total response rate. Therefore, it can be concluded that there is a high probability that the samples of the service departments represent their population while the representativeness of the faculty samples needs further investigation. Therefore, we compared the population and sample for each faculty on gender, function, country of birth and type of contract.

### *Comparison population and sample characteristics per faculty*

Tables 3 to 7 show comparisons between the population and the sample for each faculty on gender, function, country of birth and type of contract. If the distribution differs more than 10 percent, we characterize this difference as underrepresentation ( $\geq -10\%$ ) or ( $\geq +10\%$ ) overrepresentation.

Personal characteristics	Population	Sample
Gender	Males: 46%; Females: 54%	Males: 30%, Females: 52%
Function	WP = 80%; OBP = 20%* Full professor=9% Associate professor=9% Assistant professor=22% PhD candidate=15%	WP=64%, OBP=23%* Full professor=6% Associate professor=7% Assistant professor=18% PhD candidate=16%
Country of birth	Dutch=77%, EU=15%, non-EU=8%	Dutch=77%, EU=15%, non-EU=5%
Type of contract	Permanent contract=58%, temporary contract=42%	Permanent contract=67%, temporary contract=33%

*Table 3: Comparison population and sample characteristics BMS faculty (\*WP = scientific staff, OBP = support staff)*

In the sample of the BMS faculty males and WP and employees with a non-permanent contract are slightly underrepresented. Referring to the function, a conclusion has to be drawn that is also applicable to the other faculties. While it is possible to investigate with the data similarities and differences between functions on the level of the university, given the rather small frequencies on the faculty level, comparing different scientific functions (WP) in relation to several outcomes is not possible. However, on the faculty level it is possible to compare WP and OBP (support staff).

Personal characteristics	Population	Sample
Gender	Males: 69%; Females: 31%	Males: 64%, Females: 27%
Function	WP =82% ; OBP = 18%* Full professor=6% Associate professor=7% Assistant professor=15% PhD candidate=32%	WP=71%, OBP=22%* Full professor=7,5% Associate professor=7% Assistant professor=18% PhD candidate=25%
Country of birth	Dutch=59%, EU=14%, non-EU=27%	Dutch=58%, EU=15%, non-EU=20%

## UNIVERSITY OF TWENTE.

Type of contract	Permanent contract=45%, temporary contract=55%	Permanent contract=57%, temporary contract=44%
------------------	---	---

Table 4: Comparison population and sample characteristics ET faculty (\*WP = scientific staff, OBP = support staff)

In the sample of the ET faculty, WP and employees with a temporary contract are slightly underrepresented; employees with a permanent contract are overrepresented.

Personal characteristics	Population	Sample
Gender	Males: 68%; Females: 32%	Males: 54%, Females: 40%
Function	WP = 76% ; OBP = 24%* Full professor=8% Associate professor=7% Assistant professor=10% PhD candidate=32%	WP=62%, OBP=32%* Full professor=6% Associate professor=5% Assistant professor=11% PhD candidate=25%
Country of birth	Dutch=70%, EU=12%, non-EU=18%	Dutch=71%, EU=9%, non-EU=15%
Type of contract	Permanent contract=46%, temporary contract=54%	Permanent contract=61%, temporary contract=39%

Table 5: Comparison population and sample characteristics EEMCS/EWI faculty (\*WP = scientific staff, OBP = support staff)

In the sample of the EEMCS/EWI faculty, males, WP, PhD candidates and employees with a temporary contract are slightly underrepresented; employees with a permanent contract are overrepresented.

Personal characteristics	Population	Sample
Gender	Males: 63%; Females: 37%	Males: 53%, Females: 41%
Function	WP = 69% ; OBP = 31%* Full professor=6% Associate professor=4% Assistant professor=6% PhD candidate=31%	WP= 59%, OBP=36%* Full professor=5% Associate professor=4% Assistant professor=9% PhD candidate=25%
Country of birth	Dutch=66%, EU=15%, non-EU=20%	Dutch=70%, EU=11%, non-EU=14%
Type of contract	Permanent contract=46%, temporary contract=54%	Permanent contract=55%, temporary contract=45%

Table 6: Comparison population and sample characteristics TNW faculty (\*WP = scientific staff, OBP = support staff)

In the sample of the TNW faculty, males and WP are slightly underrepresented.

Personal characteristics	Population	Sample
Gender	Males: 60%; Females: 40%	Males: 48%, Females: 41%
Function	WP = 70% ; OBP = 30%* Full professor=9% Associate professor=7% Assistant professor=24% PhD candidate=18%	WP= 59%, OBP=36%* Full professor=9% Associate professor=4% Assistant professor=23% PhD candidate=9%
Country of birth	Dutch=58%, EU=20%, non-EU=23%	Dutch=61%, EU=17%, non-EU=12%

## UNIVERSITY OF TWENTE.

Type of contract	Permanent contract=66%, temporary contract=34%	Permanent contract=74%, temporary contract=25%
------------------	---	---

*Table 7: Comparison population and sample characteristics ITC faculty (\*WP = scientific staff, OBP = support staff)*

In the ITC sample, males, WP and non-EU employees and employees with a temporary contract are slightly underrepresented.

Concerning gender and type of contract, given the number of respondents it is possible to investigate on the level of faculties if these characteristics are related to other variables. We discussed earlier the relatively limited number of respondents for each scientific function category. Consequently, on the level of faculties only analysis on a more abstract level is possible: between WP (scientific staff) and OBP (support staff). The same might be true for the country of birth and especially the non-Dutch respondents: splitting non-Dutch into two categories (EU and non-EU) produces too small samples.

### **Data analysis**

The significance of differences in mean values across different groups (e.g. faculties/support units and types of employees) was assessed through Anova/Bonferroni tests.

To examine the relationships between employee well-being (i.e. work engagement and strain) and its antecedents, structural equation modelling in AMOS was performed. The respondents are nested in organizational units (i.e. faculty or support unit) such that the independence of observations may not be guaranteed. Therefore, before testing our research hypotheses, we examined to what extent there were significant differences in work engagement and strain on the organizational unit level. Here, we estimated a null model, in which independent variables were not specified, and determined the significance level of the organizational level variance ( $\tau_0^2$ ) and the employee level (or residual) variance ( $\sigma^2$ ) of the intercept. Although the employee level variance was found to be significant for both work engagement and strain, the organizational level variance was not (for work engagement:  $\tau_0^2 = .02$ ,  $p = .29$ ;  $\sigma^2 = 1.12$ ,  $p < .001$ ; for strain:  $\tau_0^2 = .01$ ,  $p = .14$ ;  $\sigma^2 = .87$ ,  $p < .001$ ). This shows that the variance in both work engagement and strain cannot be attributed to differences in faculties/support units.

**UNIVERSITY OF TWENTE.**

**APPENDIX 2: QUESTIONNAIRE**

**WELL-BEING RESEARCH**  
**University of Twente**

Datum	December 2018
Auteur	Jeroen Meijerink Jan de Leede Nicole Torka

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the University of Twente, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law.

© 2018 University of Twente



With this survey, we intend to measure your well-being at work. We ask for your opinion and your opinion does count. Everyone who works at the University of Twente will get the opportunity to fill in this survey. Thus, also those of you have not a contract with the UT such as PhD candidates with a scholarship can help us to monitor and improve our policies and practices.

This survey is anonymous. You can, if you want to, answer personal questions with the option “I prefer not to answer this question”. Furthermore, the data will be kept confidential. The survey is online available and the data will be collected by Ipsos. The raw data (without any link to any email address) will be sent to BMS faculty researchers. The analysis will be done by them. The results will be reported only at group level (faculty/service, age groups, educational groups, etc.) and not at the level of your team or department. Never will be reported on individual level! The research is under supervision of an expert group. The research has been granted ethical approval by the Ethical Commission of BMS.

It is important to fill in the entire survey. Only with complete surveys we can produce valuable results. Please, read the questions carefully and choose the best answer. It will take you 10-15 minutes.

Final submission date is **10 February, 2019**

**Many thanks for submitting the survey!**

Yours sincerely,

Dr. Jeroen Meijerink (assistant professor HRM)  
Dr. Jan de Leede (assistant professor HRM)  
Dr. Nicole Torka (HR policy advisor)

**Part I**

How often does the following occur?  
(tick only one answer)

	Never	Almost never / a few times a year or less	Rarely / Once a month or less	Someti mes / a few times a month	Often / once a week	Very often / a few times a week	Always / every day
1. At my work, I feel full of energy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
2. My job gives me energy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
3. When I get up in the morning, I feel like going to work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
4. I am enthusiastic about my job							
5. I am proud of the work that I do	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
6. My job inspires me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
7. I develop my knowledge and professional skills	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
8. I learn new things at work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
9. At my work, I use my knowledge and skills to their fullest	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
10. I decide on my own how I do things	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
11. I ask my supervisor to coach me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
12. I ask if my supervisor is satisfied with my work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
13. I ask others for feedback on my job performance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
14. I ask colleagues for advice	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
15. I start new projects at work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
16. I regularly take on extra tasks even though I do not receive extra salary for them	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7

## Part II

To what extent do you agree with the following statements?  
(tick only one answer)

	Fully disagree	Disagree	Neither agree or disagree	Agree	Fully agree
17. I have difficulties relaxing after work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
18. Problems at work stay on my mind when I am not at work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
19. Problems at work occupy my thoughts even during my vacation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
20. I know what my responsibilities are	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
21. I know what my supervisor expects of me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
22. It is clear to me what I need to do in my job	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
23. I know how satisfied my supervisor is with what I do	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
24. My supervisor understands my needs well	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
25. My supervisor recognizes my qualities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
26. The probability that my supervisor uses his/her influence to advance my interests at work is high	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
27. I have enough confidence in my supervisor.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
28. My working relationship with my supervisor is good	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

	Fully disagree	Disagree	Neither agree or disagree	Agree	Fully agree
29.I feel a sense of belonging with my colleagues	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
30.I get along well with my colleagues	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
31.I like my colleagues	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
32.I have autonomy in determining how I do my job	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
33.I can decide on my own how I do my work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
34.I have considerable opportunity for independence and freedom in how I do my work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
35.I am confident about my ability to do my job	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
36.I am self-assured about my knowledge and skills necessary for doing my job	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
37.I have mastered the knowledge and skills necessary for my job	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

## PART III

The following questions relate to what the University of Twente offers you.  
How satisfied are you with ...

	Very dissatisf ied	Dissatisf ied	Neither agree or disagre e	Satisfi ed	Very satisfied	Does not apply
38. training/education opportunities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
39. opportunities to change jobs	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
40. opportunities to develop within current position	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
41. performance appraisal	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
42. performance feedback	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
43. pay	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
44. benefits other than pay (working times, vacation days, pension arrangements, etc.)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
45. family-friendly policies and facilities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
46. recognition for performance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
47. influencing decisions related to issues that concern you	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
48. support during and after illness	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
49. support for new employees	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
50. information from HR Central and HR at your faculty/service (about pay, benefits, leave, training opportunities, etc.)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
51. support when you have a problem related to HR issues (pay, benefits, contracts, etc.)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
52. Arbo (work conditions) facilities (company doctors, health services, psychologists, etc.)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
53. Campus facilities						
53a. catering	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
53b. library	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
53c. cultural activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
53d. sport facilities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
53e. lecture rooms	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

**PART IV**

	Fully disagree	Disagree	Neither agree or disagree	Agree	Fully agree
54. I enjoy talking positively about UT with people outside of it.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
55. I really feel as if the UT's challenges are my own.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
56. I think that I could easily become as attached to another organization as I am to the UT	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
57. I feel like 'a part of the community' at the UT	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
58. I feel 'emotionally attached' to the UT	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
59. I feel a 'strong' sense of belonging to the UT	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

60. How much time do you spend on the following tasks?	Far too little	Too little	Just good	Too much	Far too much	Does not apply
- Teaching	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
- Research	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
- Valorisation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
- Managerial activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
- Administration	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
- Meetings	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

	Way too low	Too low	Good	Too high	Way too high
61. My workload is ....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
62. Have you used vacation days for getting your work done, in the past 12 months?	No <input type="checkbox"/> 1	Yes <input type="checkbox"/> 2			
63. Have you called in sick for getting your work done, in the past 12 months?	No <input type="checkbox"/> 1	Yes <input type="checkbox"/> 2			

Never	Seldom	Regularly	Often	Very often
-------	--------	-----------	-------	------------

64. How often do you take part in educational/training activities provided by the UT  1  2  3  4  5

65. I make use of the following opportunities for career support

No  1

I am a member of one or more career networks and visit their meetings regularly (e.g. FFNT, OBP Vrouwennetwerk)  2

I had meetings or have planned a meeting with a career coach  3

I make sure to let people know that I am open to other jobs at the UT  4

I make sure to let people know that I am open to jobs outside the UT  5

I am a member of one or more career networks outside the UT and visit their meetings regularly  6

66. Have you applied for another job at the UT in the last 12 months? No  1 Yes  2

67. Have you applied for another job outside the UT in the last 12 months? No  1 Yes  2

## PART V

The aim of the next two questions is to give you an opportunity to report about issues that should be improved on and what you like most about your job at the UT

68. In your opinion, what are the top 3 things you like most about your job/the University of Twente?

69. In your opinion, what are the top 3 things you dislike most about your job/the University of Twente?

70. I am satisfied with the UT as an organization .....  
(1= not at all; 10=very much)



**PART VI**

71. What is your age? ..... (in years) 4  
I prefer not to answer this question
72. What is the upper level of your education?  
Primary school  1  
Secondary education  2  
Senior secondary vocational education  3  
BA  4  
BSc  5  
MSc, MA or LLM  6  
PhD  7
73. Which job title best describes your job?  
Phd Candidate / Student  1  
Researcher / Postdoc  2  
Teacher  3  
Assistant Professor – non tenure track  4  
Assistant Professor –tenure track  5  
Associate Professor – non tenure track  6  
Associate Professor –tenure track  7  
Full professor  8  
Manager (support service)  9  
Manager (faculties)  10  
Support staff  11  
I prefer not to answer this question  12
74. What is your gender?  
Male  1  
Female  2  
Other  3  
I prefer not to answer this question  4
75. What is your family status?  
(multiple answers can be given)  
Single  1  
In a relationship  2  
Other  3  
I prefer not to answer this question  4
76. What is your home situation?  
(multiple answers can be given)  
Without children  1  
With children at home  2  
With independent children  3  
Informal carer (for parents, siblings, etc.)  4  
I prefer not to answer this question  5
77. How long have you been working at the University of Twente?  
.... Years  
.... Months  
I prefer not to answer this question  2

78. Where were you born?

- In the Netherlands  1
- In an EU country, but not the Netherlands  2
- In Europe, but not an EU country  3
- Africa  4
- Asia  5
- North-America  6
- South-America  7
- Australia  8
- I prefer not to answer this question  9

79. What is your contract status with the University of Twente?

- I have a permanent employment contract  1
- I have a temporary employment contract  2
- have a temporary employment contract with an opportunity for a permanent contract  3
- I do not have a contract status with the UT (e.g. PhD candidates with a scholarship or PNUT)  4

80. Which organizational unit do you work for?

- Faculty of Behavioural, Management and Social Sciences (BMS)
- Faculty of Engineering Technology (ET)
- Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS/EWI)
- Faculty of Science and Technology (TNW)
- Faculty of Geo-Information Science and Earth Observation (ITC)
- AZ
- CFM
- CES
- FEZ
- HR
- LISA
- M&C
- S&B

81. According to your contract, how many hours a week are you expected to work?

..... hours a week

82. How many hours a week did you actually work on average a week, in the last three months?

..... hours a week

83. During the last two years, have you experienced one or more of the following aggressive behaviours against yourself at the UT? *(multiple answers can be given)*

- No  1
- Bullying  2
- Discrimination  3
- Intimidation (shouting, threats, etc.)  4
- Sexual harassment  5
- Physical violence  6
- Yes, but none of the aforementioned forms of aggression  7
- I prefer not to answer this question  8

84. During the last two years, have you been a witness of any of the following aggressive behaviours at the UT *(multiple answers can be given)*

- No  1
- Bullying  2
- Discrimination  3
- Intimidation (shouting, threats, etc.)  4
- Sexual harassment  5
- Physical violence  6
- Yes, but none of the aforementioned forms of aggression  7
- I prefer not to answer this question  8

85. If you perceived aggressive behaviours against yourself or others, did you share your experience(s) with others? *(multiple answers can be given)*

- Not applicable  1
- Yes, with colleagues  2
- Yes, with my supervisor  3
- Yes, with somebody from HR  4
- Yes, with a confidential advisor  5
- Yes, with someone from the UT, but none of the persons mentioned above  6
- Yes, with someone from outside the UT  7
- I did not share this experience with others  8

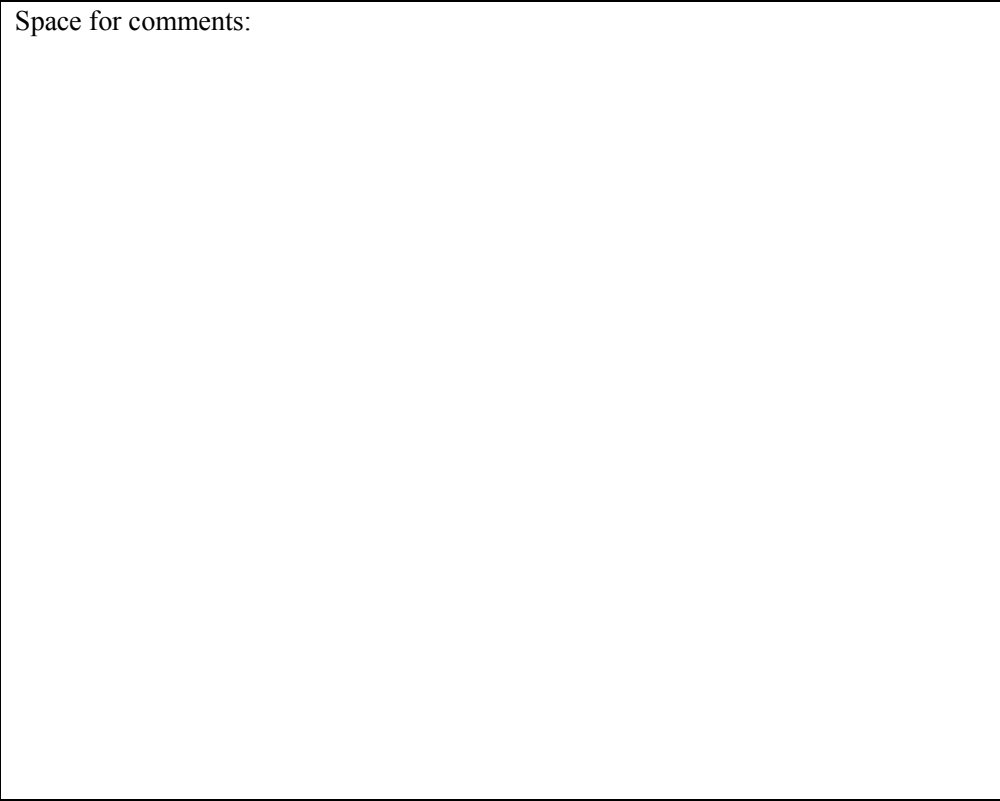
Why didn't you share this experience with others?

**Part VII**

**Finally**

We would like to give you the opportunity to explain your answers or to bring forward matters that are not included in this questionnaire.

Space for comments:



**Thank you for filling in the questionnaire!**

**APPENDIX 3: MEANS SCORES FOR ANTECEDENTS OF EMPLOYEE WELL-BEING**

Organizational unit	Satisfaction with HRM <sup>1</sup>		Increasing Structural Resources <sup>2</sup>		Increasing Social Resources <sup>2</sup>		Increasing Challenging Demands <sup>2</sup>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
BMS	3.07 <sup>a</sup>	.62	5.29	.98	3.53	.91	4.50	1.12
ET	3.52	.69	5.47	.85	3.60	.93	4.53	1.20
EEMCS/EW	3.55	.69	5.46	.78	3.61	1.01	4.24	1.17
TNW	3.55	.51	5.56 <sup>b</sup>	.80	3.73	.96	4.49	1.11
ITC	3.14	.63	5.31	.81	3.25 <sup>c</sup>	.90	4.27	1.15
AZ	3.46	.43	5.24	.90	3.99	.75	4.67	.93
CFM	3.40	.66	5.15	.92	3.57	.88	4.44	1.28
CES	3.34	.57	5.13	.91	3.58	.92	4.33	1.13
FEZ	3.02	.53	4.86	.85	3.28	.91	4.04	.97
HR	3.60	.54	5.28	.76	3.86	.74	4.36	.93
LISA	3.28	.81	5.10	1.18	3.57	.99	4.28	1.09
M&C	3.70	.49	5.33	.73	3.72	.82	4.67	.99
S&B	3.55	.45	5.20	.66	4.09	1.05	4.95	1.04
University of Twente	3.39	.64	5.35	.89	3.61	.94	4.43	1.13

<sup>1</sup> Scale = 1 to 5

<sup>2</sup> Scale = 1 to 7

<sup>a</sup> The mean score for HRM satisfaction is significantly lower for BMS in comparison to ET, EWI, TNW, and M&C ( $p < .05$ ). The remaining mean scores for HRM satisfaction do not significantly differ across organizational units.

<sup>b</sup> The mean score for Increasing Structural Resources is significantly higher for TNW in comparison to CMF, CES, FES and LISA ( $p < .05$ ). The remaining mean scores for Increasing Structural Resources do not significantly differ across organizational units.

<sup>c</sup> The mean score for Increasing Social Resources is significantly lower for ITC in comparison to TNW, AZ, HR and S&B ( $p < .05$ ). The remaining mean scores for Increasing Social Resources do not significantly differ across organizational units.

Organizational unit	Role Clarity <sup>1</sup>		Leader - Member Exchange <sup>1</sup>		Team Cohesion <sup>1</sup>		Autonomy <sup>1</sup>		Self-efficacy <sup>1</sup>		Commitment <sup>1</sup>	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
BMS	3.91	.74	3.51	.95	4.08	.71	3.97	.81	4.12	.61	3.42	.68
ET	3.92	.66	3.75	.78	4.09	.62	4.11	.69	3.97	.73	3.52	.62
EEMCS/EW	3.95	.59	3.73	.72	4.08	.63	4.08	.66	4.02	.64	3.61	.59
TNW	4.02	.59	3.82	.72	4.17	.60	4.26 <sup>d</sup>	.60	4.10	.60	3.58	.57
ITC	3.95	.64	3.59	.77	4.07	.72	3.89	.71	4.12	.56	3.24	.63
AZ	3.94	.75	3.53	.91	4.18	.71	3.98	.72	4.19	.40	3.75	.43
CFM	4.04	.63	3.54	.86	3.84 <sup>c</sup>	.67	3.81	.71	4.25 <sup>e</sup>	.47	3.71	.53
CES	4.00	.64	3.56	.86	4.07	.63	3.96	.71	4.10	.65	3.61	.51
FEZ	3.46 <sup>a</sup>	.72	2.83	1.02	4.12	.58	3.33 <sup>d</sup>	.89	3.97	.62	3.36	.62
HR	4.01	.49	3.73	.52	4.27	.55	3.86	.70	4.10	.65	3.59	.49
LISA	3.90	.70	3.47	.99	4.05	.52	3.85	.85	4.24	.52	3.62	.55
M&C	4.03	.61	3.81	.72	4.22	.58	4.22	.61	4.13	.51	3.90	.45
S&B	3.78	.54	3.73	.48	4.23	.68	3.97	.61	3.92	.37	3.93	.36
University of Twente	3.95	.65	3.65	.82	4.10	.64	4.03	.72	4.09	.61	3.56	.60

<sup>1</sup> Scale = 1 to 5

<sup>a</sup> The mean score for Role clarity is significantly lower for FEZ in comparison to EWI, TNW, ITC, CFM, CES, HR and M&C ( $p < .05$ ). The remaining mean scores for Role clarity do not significantly differ across organizational units.

<sup>b</sup> The mean score for Leader-member exchange is significantly lower for FEZ in comparison to BMS, ET, EWI, ITC, CFM, CES, HR, LISA, M&C and S&B ( $p < .05$ ). The remaining mean scores for Leader-member exchange do not significantly differ across organizational units.

<sup>c</sup> The mean score for Team cohesion is significantly lower for CFM in comparison to TNW and HR ( $p < .05$ ). The remaining mean scores for Leader-member exchange do not significantly differ across organizational units.

<sup>d</sup> The mean score for Autonomy is significantly higher for TNW in comparison to BMS, ITC, CFM, CES, FEZ, HR, and LISA ( $p < .05$ ). Moreover, the mean score for Autonomy is lower for FEZ in comparison to BMS, ET, EWI, TNW, ITC, AZ, CES, and M&C ( $p < .05$ ). The remaining mean scores for Autonomy do not significantly differ across organizational units.

<sup>e</sup> The mean score for Self-efficacy is significantly higher for CFM in comparison to ET ( $p < .05$ ). The remaining mean scores for Self-efficacy do not significantly differ across organizational units.

#### APPENDIX 4 : MODEL FIT COMPARISON

Model	$\chi^2$	df	$\Delta \chi^2$	CFI	GFI	RMSEA
Theoretical model (Figure 1)	4296.90	934		.86	.82	.06
Alternative model 1 <sup>a</sup>	4276.92	933	19.98 <sup>*** b</sup>	.86	.82	.06
Alternative model 2 <sup>c</sup>	4274.17	932	2.75 <sup>d</sup>	.86	.82	.06
Alternative model 3 <sup>e</sup>	4132.09	932	142.08 <sup>*** d</sup>	.87	.83	.06
Alternative model 4 <sup>f</sup>	4120.63	931	11.46 <sup>*** g</sup>	.87	.83	.06
Alternative model 5 <sup>h</sup>	4098.64	930	21.99 <sup>*** i</sup>	.87	.83	.06
Alternative model 6 <sup>j</sup>	4098.19	929	.45 <sup>k</sup>	.87	.83	.06
Alternative model 7 <sup>l</sup>	4090.90	929	7.74 <sup>*** k</sup>	.87	.83	.06
Alternative model 8 <sup>m</sup>	4075.44	928	15.46 <sup>*** n</sup>	.87	.83	.06
Alternative model 9 <sup>o</sup>	4036.94	927	38.5 <sup>*** p</sup>	.87	.84	.06
Alternative model 10 <sup>q</sup>	4015.05	926	21.89 <sup>*** r</sup>	.87	.84	.06
Alternative model 11 <sup>s</sup>	3997.34	925	17.71 <sup>*** t</sup>	.87	.84	.06
Alternative model 12 <sup>u</sup>	3980.53	924	16.81 <sup>*** v</sup>	.87	.84	.06
Alternative model 13 <sup>w</sup>	3893.79	923	86.74 <sup>*** x</sup>	.88	.84	.06
Alternative model 14 <sup>y</sup>	3819.41	922	74.38 <sup>*** z</sup>	.88	.84	.06
Alternative model 15 <sup>aa</sup>	3808.99	921	10.42 <sup>*** bb</sup>	.88	.85	.05

N = 985 individual employees

\*\*\* p < .001

<sup>a</sup> Adds the direct path from employee satisfaction with HRM to work engagement

<sup>b</sup> Model fit compared with the theoretical model (Figure 1)

<sup>c</sup> Adds the direct path from employee satisfaction with HRM to strain

<sup>d</sup> Model fit compared with Alternative model 1

<sup>e</sup> Adds the direct path from increasing structural resources to work engagement

<sup>f</sup> Adds the direct path from increasing structural resources to strain

<sup>g</sup> Model fit compared with Alternative model 3

<sup>h</sup> Adds the direct path from increasing social resources to work engagement

<sup>i</sup> Model fit compared with Alternative model 4

<sup>j</sup> Adds the direct path from increasing social resources to strain

<sup>k</sup> Model fit compared with Alternative model 5

<sup>l</sup> Adds the direct path from increasing challenging demands to work engagement

<sup>m</sup> Adds the direct path from increasing challenging demands to strain

<sup>n</sup> Model fit compared with Alternative model 7

<sup>o</sup> Adds the direct path from team cohesion to commitment

<sup>p</sup> Model fit compared with Alternative model 8

<sup>q</sup> Adds the direct path from team cohesion to self-efficacy

<sup>r</sup> Model fit compared with Alternative model 9

<sup>s</sup> Adds the direct path from leader-member exchange to self-efficacy

<sup>t</sup> Model fit compared with Alternative model 10



- <sup>u</sup> Adds the direct path from leader-member exchange to autonomy
- <sup>v</sup> Model fit compared with Alternative model 11
- <sup>w</sup> Adds the direct path from self-efficacy to role clarity
- <sup>x</sup> Model fit compared with Alternative model 12
- <sup>y</sup> Adds the direct path from autonomy to role clarity
- <sup>z</sup> Model fit compared with Alternative model 13
- <sup>aa</sup> Adds the direct path from self-efficacy to role overload
- <sup>bb</sup> Model fit compared with Alternative model 13

## APPENDIX 5: COMPLETE OVERVIEW OF SEM RESULTS

Variable	Work engagement	Strain
Satisfaction with HRM	.03	
Job crafting	.72***	.00
Role overload	-.08*	.45***
Role clarity	.03	.12*
Leader-member exchange	.07	-.13**
Team cohesion	.06*	-.08
Autonomy	-.16**	.01
Self-efficacy	.17***	-.17***
Commitment	.16***	-.03
R <sup>2</sup>	.78	.26

Standardize regression coefficients are shown

N = 985 individual employees

\*\*\* p < .001, \*\* p < .01, \* p < .05

Variable	Role overload	Role clarity
Satisfaction with HRM	-.49***	.30***
Job crafting	.33***	.03
Autonomy		.19***
Self-efficacy	-.08*	.47***
Commitment		
R <sup>2</sup>	.17	.52

Standardize regression coefficients are shown

N = 985 individual employees

\*\*\* p < .001, \*\* p < .01, \* p < .05

Variable	LMX	Team cohesion	Autonomy	Self-efficacy	Commitment
Satisfaction with HRM	.52***	.24***	-.02	-.19**	.21***
Job crafting	.20***	.21***	.42***	.26***	.20***
Leader-member exchange (LMX)			.30***	.11*	
Team cohesion					.27***
Autonomy				.19***	
R <sup>2</sup>	.42	.16	.37	.15	.28

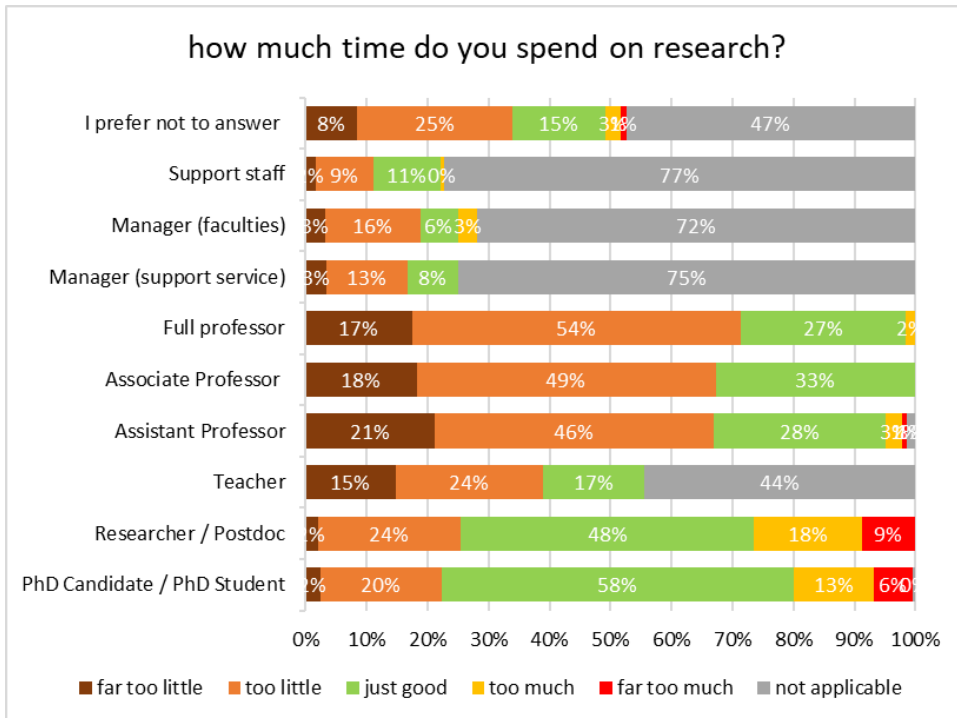
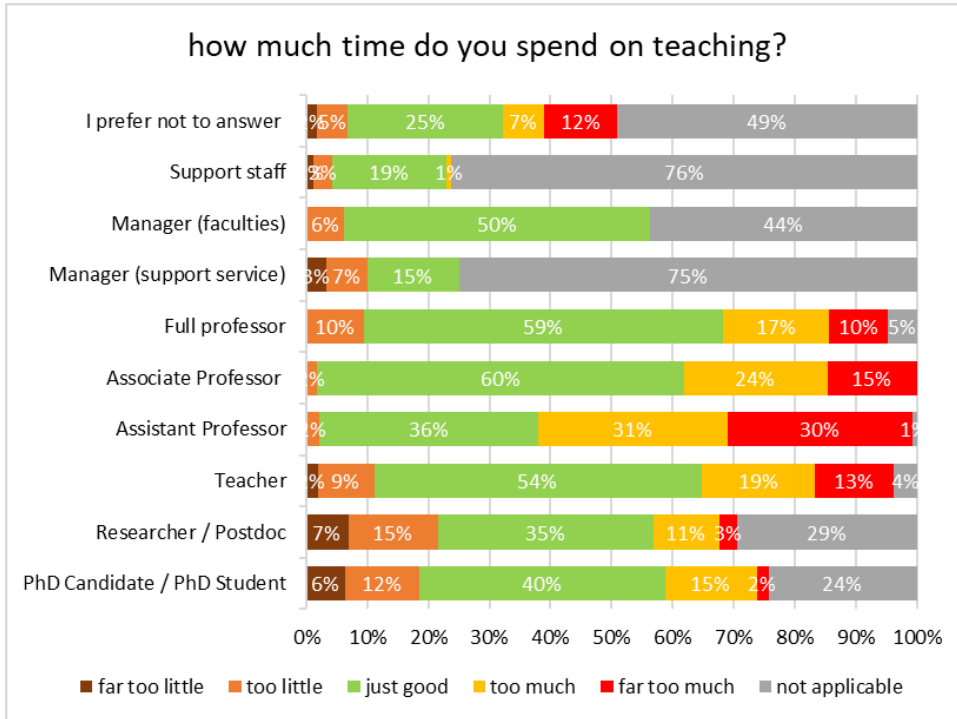
Standardize regression coefficients are shown

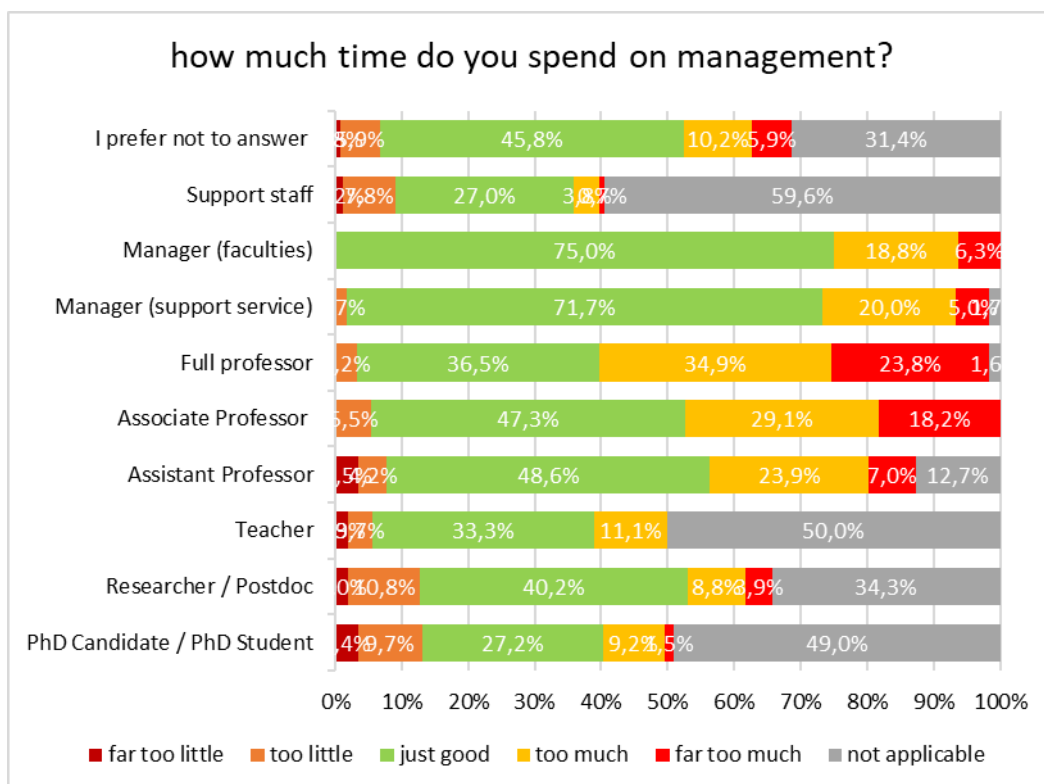
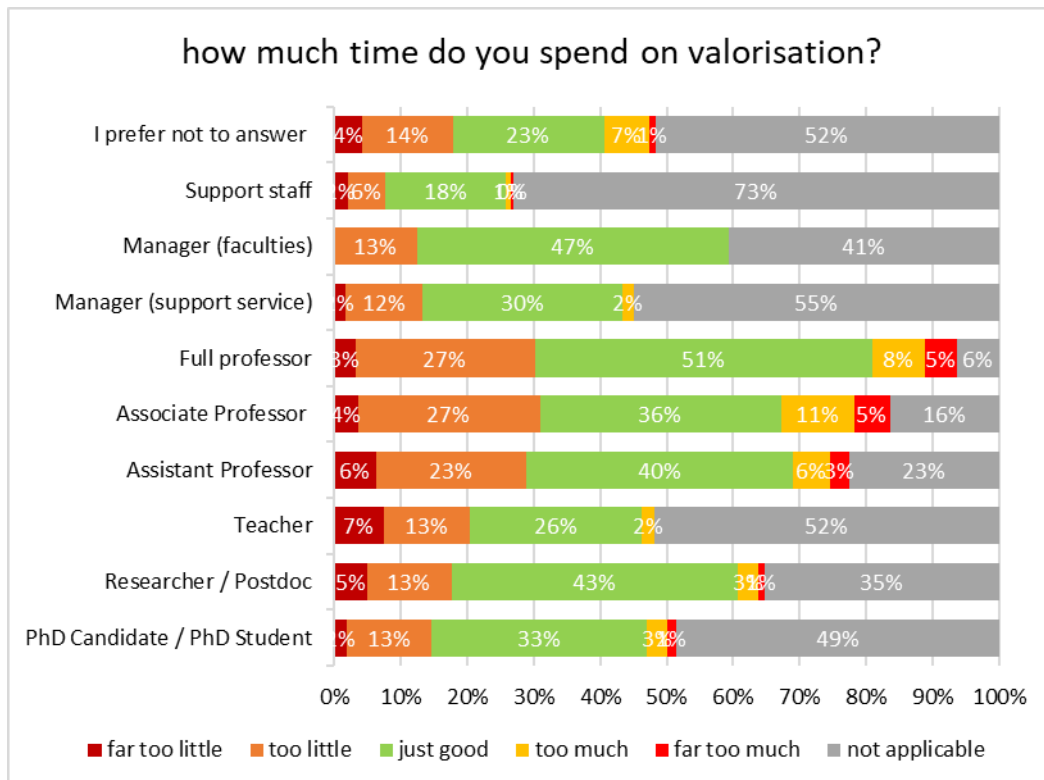
N = 985 individual employees

\*\*\* p < .001, \*\* p < .01, \* p < .05

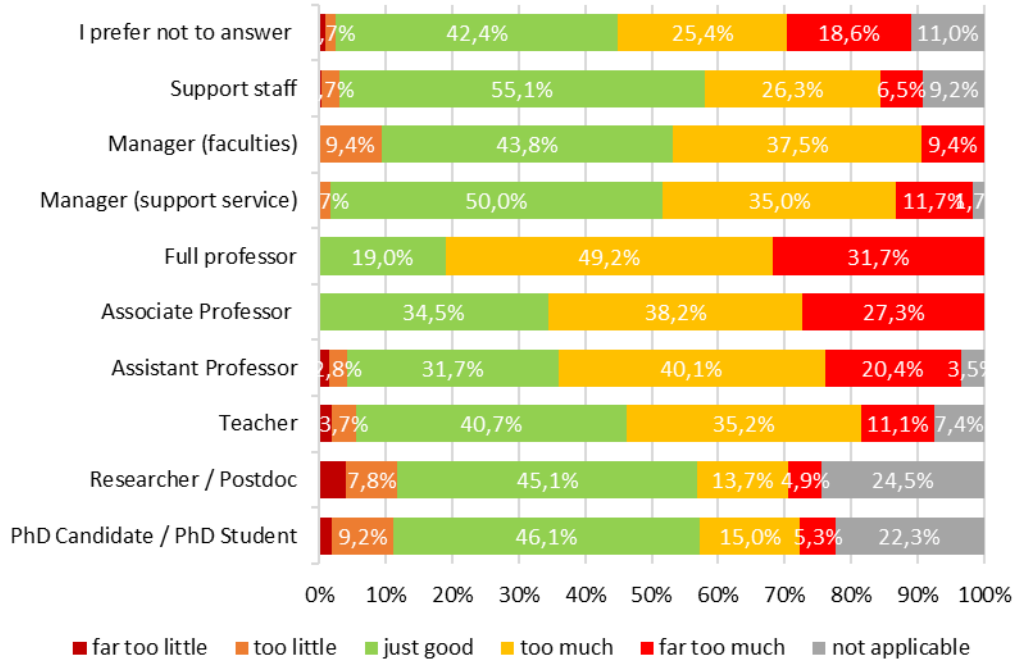
## APPENDIX 6 TIME SPENT ON SPECIFIC TASKS

Here 6 tables are presented that report on the time spent on the different activities of UT employees: teaching, research, valorization, management, administration and meetings.

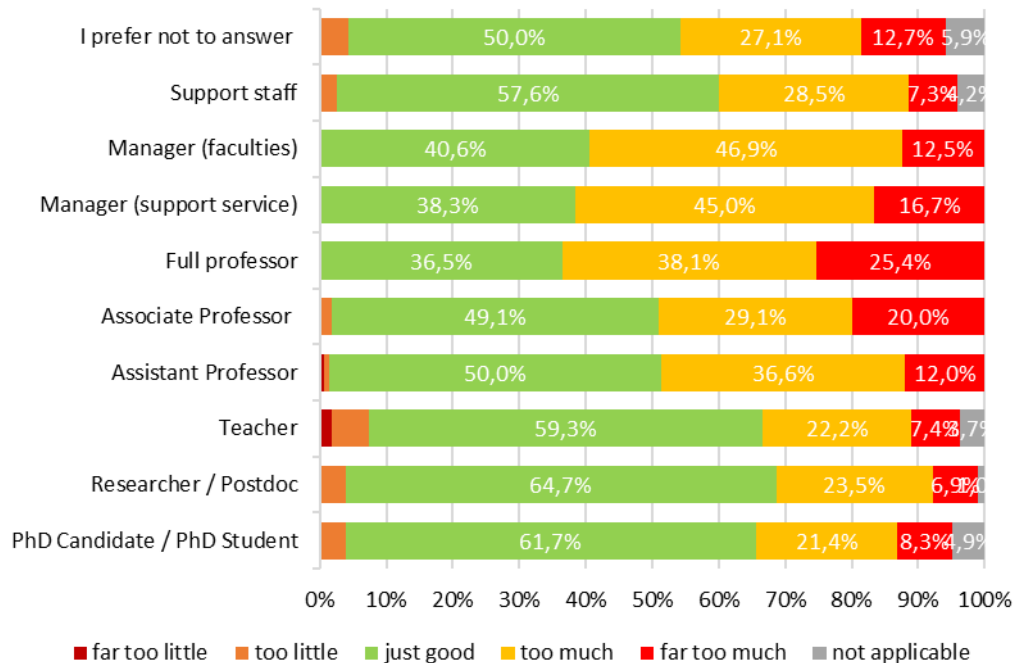




### how much time do you spend on administration?



### how much time do you spend on meetings?





Universiteit Twente

16-4-2019

Petra Beun

Annemarie Braakman

Ric Breteler

Jeroen Hesselink

Wilma Horselenberg

Johan de Jong

Sarah van Keulen

Anita Koops

Rulanda van Kruysbergen

Riejanne van Woerkom

**UNIVERSITY  
OF TWENTE.**

**arbo  
unie** aan de slag

# Inleiding

Voor u ligt ons jaarverslag over het jaar 2018 voor de Universiteit Twente. In dit jaarverslag vertellen we wat we gedaan hebben voor uw organisatie in het afgelopen jaar en beschouwen we de gegevens rond het verzuim.

In dit jaarverslag is een kwantitatieve analyse van het verzuim opgenomen, aangevuld met bevindingen van onze professionals. De informatie is – waar relevant – voorzien van adviezen en acties gericht op inzetbaarheid van uw medewerkers.

## Inhoud

- 1 Analyses verzuim
- 2 Bevindingen
- 3 Conclusies en aanbevelingen

Arbo Unie heeft de uiterste zorg besteed aan de samenstelling van deze rapportage. De grafische informatie is gebaseerd op de beschikbare gegevens in onze bronsystemen. Deze worden mede samengesteld met de door uw organisatie

beschikbaar gestelde gegevens. Ondanks de zorg en aandacht is het mogelijk dat er onjuistheden, onvolledigheden of gedateerde informatie is opgenomen. Arbo Unie aanvaardt hiervoor geen aansprakelijkheid

# Analyses en bevindingen

## Kwantitatief: op basis van verzuimcijfers

- 1.1 Totaal verzuim en meldingsfrequentie
- 1.2 Onze spreekuurcontacten
- 1.3 Verdeling van soorten spreekuur contacten over de disciplines
- 1.4 Kerncijfers over verzuimdagen
- 1.5 Verdeling leeftijds categorieën
- 1.4 Verzuimdagen met diagnoses
- 1.5 Psychisch verzuim
- 1.6 Meldingsfrequentie
- 1.7 Verzuimpercentages visueel vergeleken

## Kwalitatief: bevindingen professionals

- 2.1 Bevindingen professionals
- 2.2 Bevindingen: Samenwerking met de UT
- 2.3 Bevindingen: wat valt op in het contact met de medewerkers?
- 2.4 Bevindingen op gebied van ongewenst gedrag
- 2.5 Voortuitzicht

## Scope van de verzuimcijfers:

Arbo Unie beschikt – conform de AVG wetgeving - alleen over gegevens van medewerkers waar we een behandelrelatie mee hebben.

We maken bij de beoordeling van de verzuimcijfers gebruik van de cijfers van de UT zelf.

Arbo Unie beschikt over gegevens van personen die verzuimd hebben en waar we als behandelaar contact mee hebben. Daarbij is het volume van het aantal ziektedagen de basis van onze rapportage. We kunnen u inzicht bieden in het aantal ziektedagen per diagnosecode, leeftijd, geslacht.

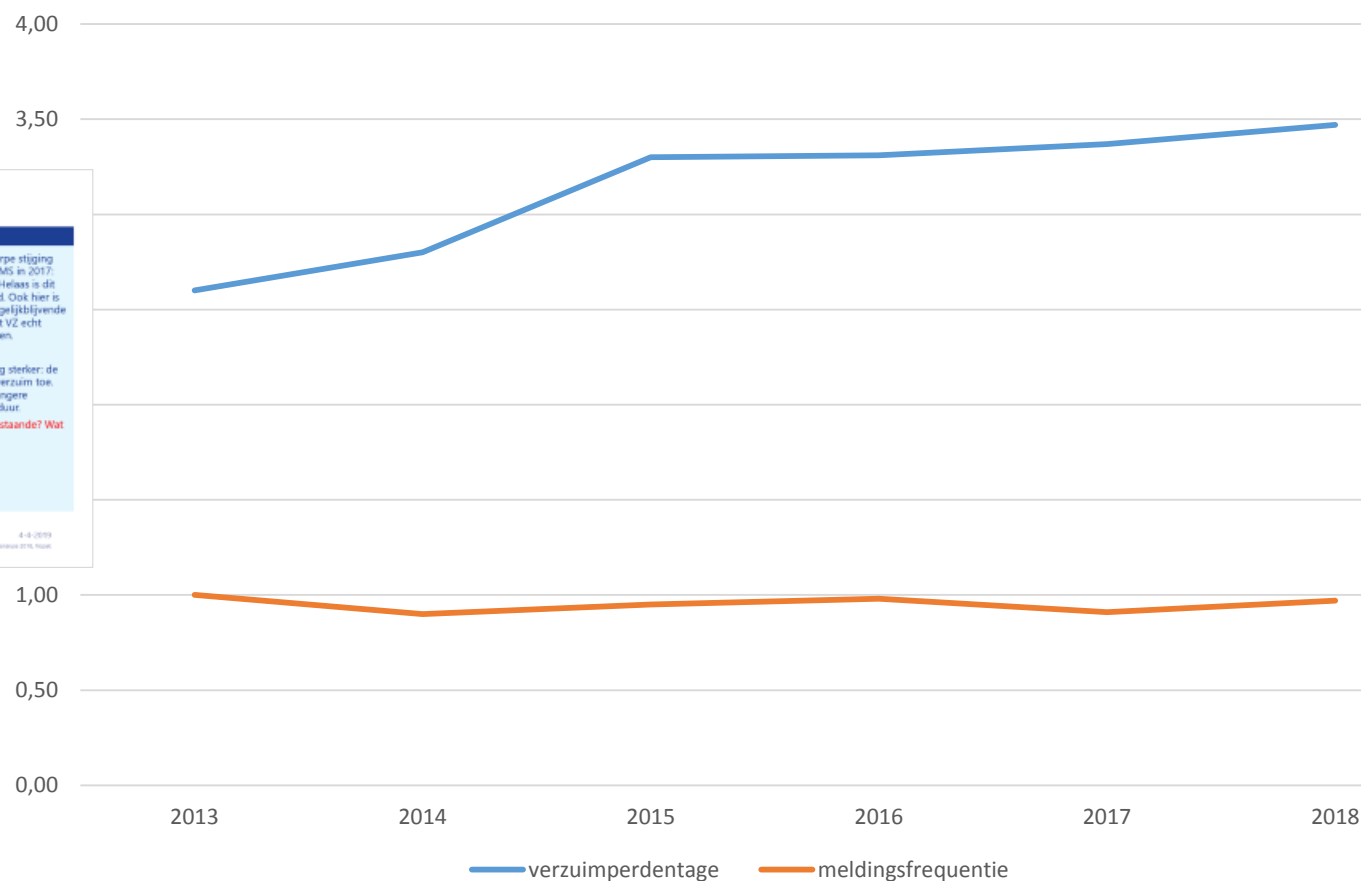
We kunnen het aantal ziektedagen niet koppelen aan nationaliteit, afkomst, soort en/of lengte van het dienstverband en het opleidingsniveau.

We rapporteren alleen over groepen > 15 personen,



## 1.1 Totaal verzuim en meldingsfrequentie

ontwikkeling verzuimcijfers in de loop der jaren



We zien bij een gelijkblijvende meldingsfrequentie (MF) een oplopend verzuim. Sinds 2013 is het verzuim (VZ) met een bijna een vol procent toegenomen, dat is met bijna 33%,

De MF is vrij constant gebleven. De duur van het VZ is dus echt behoorlijk toegenomen. Er melden zich dus niet meer personen ziek, maar het duurt langer voor ze weer hersteld zijn.

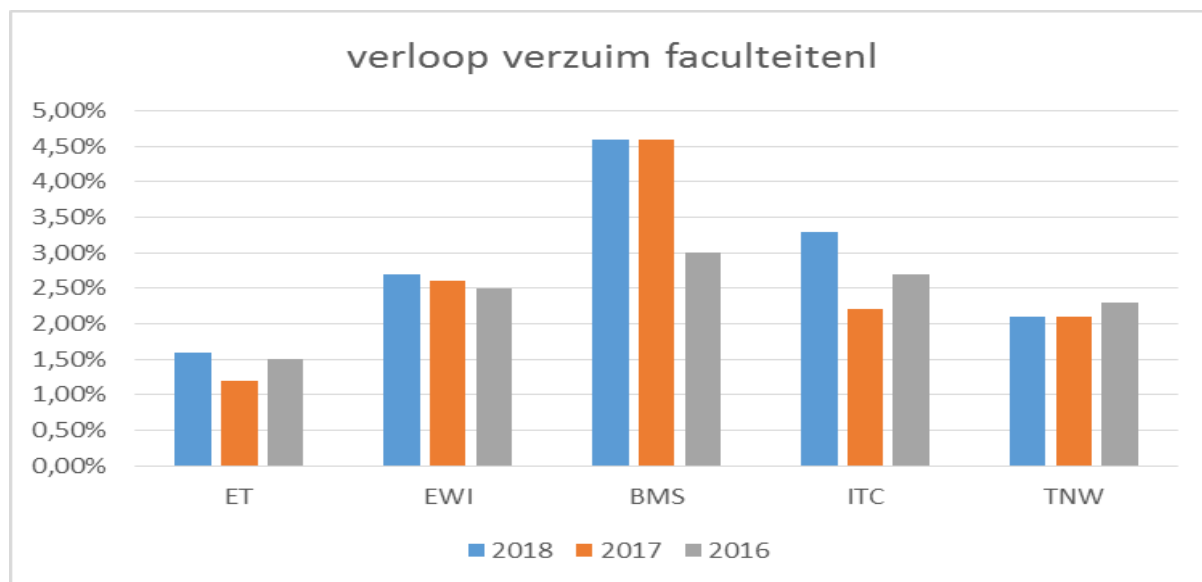
Voor ons is moeilijk te beoordelen welke factoren daarin een rol gespeeld hebben, dit zouden we graag verder met u bespreken.

Uitleg:

MF= de meldingsfrequentie. Als er in totaal 100 mdw zijn, die zich allemaal 1x per jaar ziek melden is de MF 1. We hanteren een MF = 1 ook als 'norm'. Een hogere MF is een aanleiding om een nadere analyse van de oorzaken te doen.

De vuistregel is dat ca. 40% van een mdw bestand zich niet ziekmeld. De overige 60 personen zijn dan verantwoordelijk voor de 100 ziekmeldingen.

## 1.1 Totaal verzuim en meldingsfrequentie per faculteit.

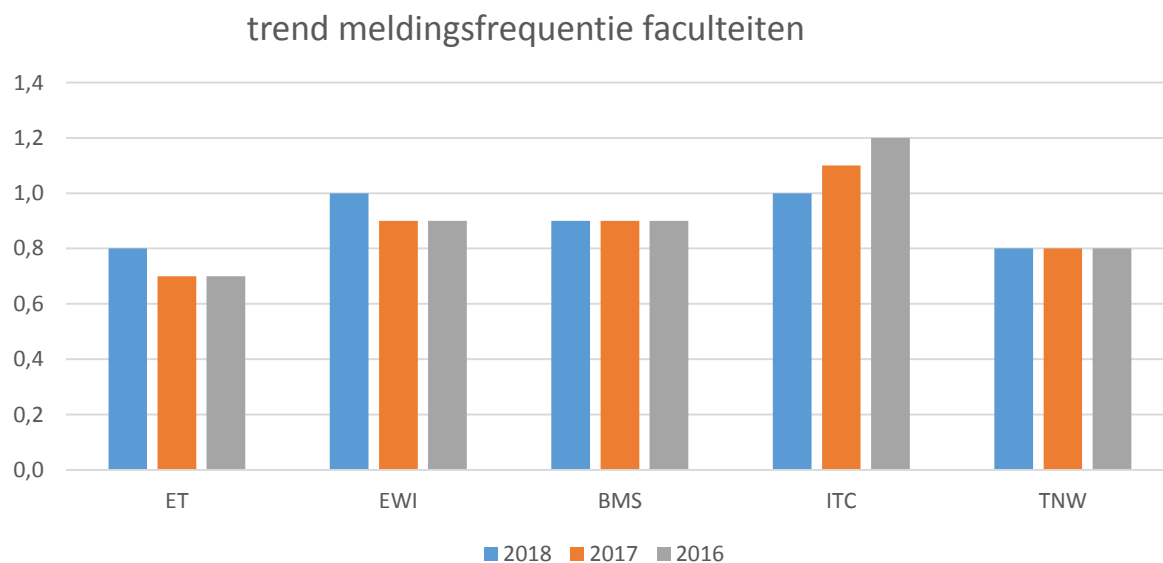


Wat opvalt is de scherpe stijging van het verzuim bij BMS in 2017: iets meer dan 1,5 %. Helaas is dit ook in 2018 het beeld. Ook hier is de conclusie: bij een gelijkblijvende MF is de duur van het VZ echt behoorlijk toegenomen.

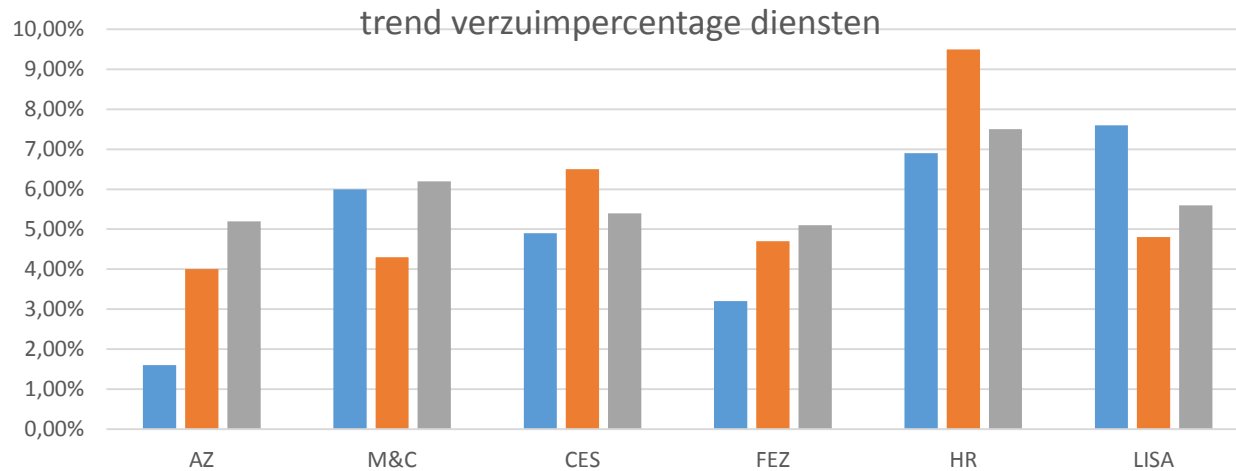
Bij ITC is dit effect nog sterker: de MF neemt af en het verzuim toe. Dat komt dus door langere gemiddelde verzuimduur.

Ook hier hebben we onvoldoende informatie: we weten niet wat er is veranderd binnen de bedrijven.

Ons advies is om een nadere analyse te maken voor betreffende faculteiten. Verzuimduur en enkele langdurig zieken zou een rol kunnen spelen.

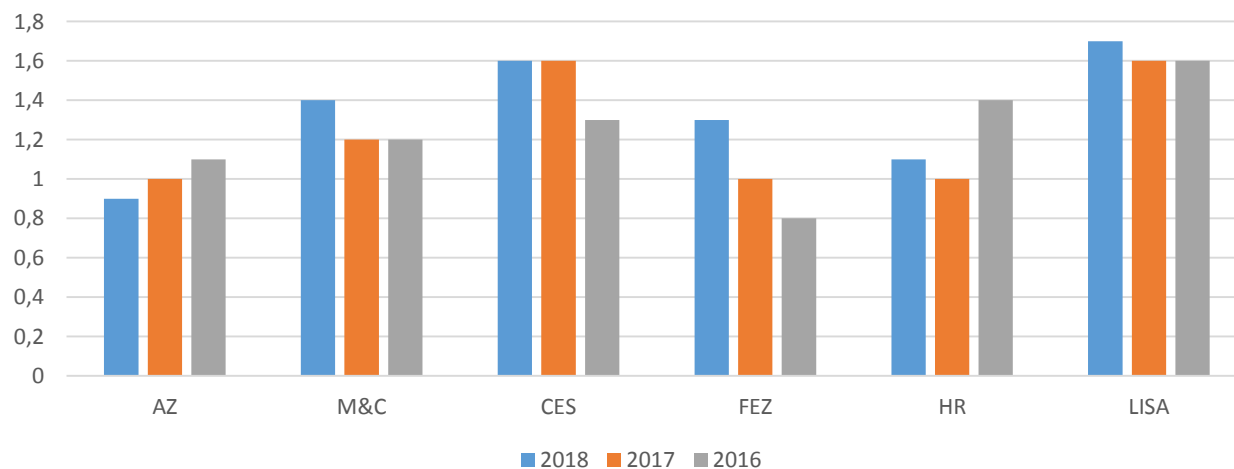


## 1.1 Totaal verzuim en meldingsfrequentie per dienst.



■ 2018 ■ 2017 ■ 2016

trend meldingsfrequentie diensten



Het VZ en de MF ligt bij de faculteiten hoger dan bij de diensten.

Als we de cijfers per dienst uitsplitsen zien we dat de er in 2018 een paar diensten uitspringen.

Lisa, HR en M&C hebben een behoorlijk hoog verzuim, bij HR is het VZ in 2018 afgenomen en bij Lisa, en M&C is het toegenomen. CES en M&C hebben een echt hoge MF.

Een hoge MF kan een signaal zijn van in de organisatiecontext gelegen oorzaken, bijvoorbeeld snelle ontwikkelingen en veranderingen of veranderingen in de arbeidsverhoudingen.

Hou in het oog dat het hierbij vooral om OBP gaat dat daarbij verzuim altijd hoger is omdat ze minder regelmogelijkheden hebben.

Frequentie zegt vaker iets over de sfeer en de veranderingen die plaatsvinden. Tegelijkertijd zijn het kleinere groepen waarbij enkele langdurige verzuimers veel invloed hebben op de cijfers. Ook hier kan een nadere analyse zinvol zijn.

## 1.2 Onze spreekuurcontacten in 2018.

	Totaal	AGS	VZ	VRT	PRA	RIV	DA90
AZ	14	4	8	2			
BMS	273	17	193	37	12	4	10
CES	76	12	33	14	6	1	5
CFM	60	7	30	13	6	1	3
ET	77	13	38	15	5		6
EWI	86	8	53	12	9	1	3
FEZ	24	4	13	2	2		3
HR	52	3	42	2	3	1	1
ITC	70	2	51	9	5	1	2
LISA	109	8	79	11	8	1	2
M&C	57	5	42	4	4		2
S&B	60	4	48	5			3
TNW	138	19	82	16	11	2	8

In deze tabel kunt u zien wat we voor u gedaan hebben in 2018.

U ziet het aantal contacten per onderdeel van uw organisatie. Hierbij zijn de contacten van de bedrijfsartsen en de Verzuimconsulenten bij elkaar genomen.

De afkortingen staan voor:

AGS = Arbeidsomstandigheden spreekuur.

VZ= Verzuimspreekuur

VRT = telefonisch spreekuur

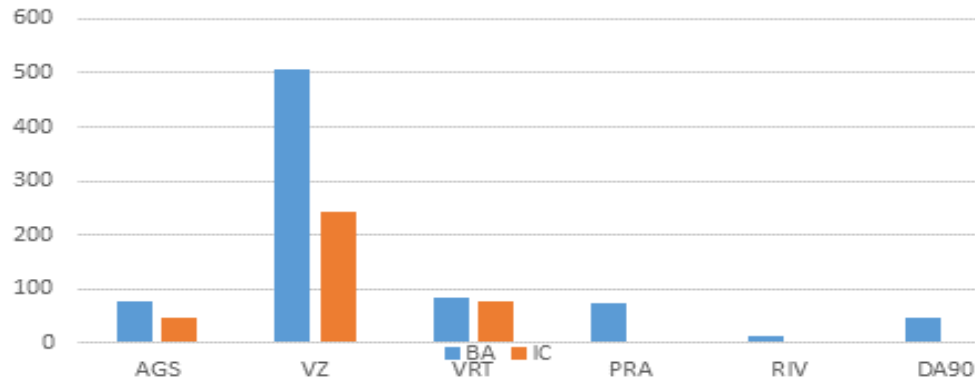
PRA = Probleem Analyse

RIV = Re-integratieverslag

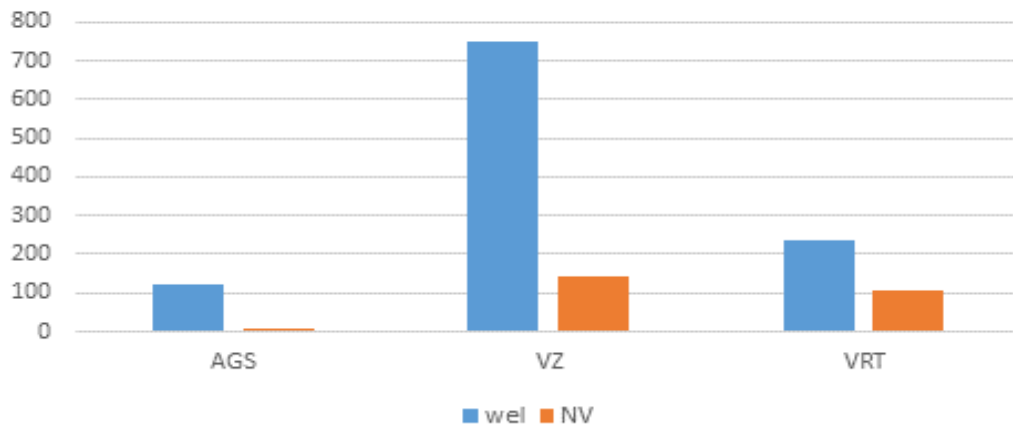
DA90= Verwijzing naar psycholoog.

# 1.3 Verdeling van soorten spreekuur contacten over de disciplines

verdeling activiteiten per discipline



aantal malen niet verschenen



In de tabel hiernaast kunt u zien hoe vaak de verschillende soorten spreekuren hebben plaatsgevonden, en of die bij een bedrijfsarts of een verzuimconsulent waren.

Wat ons opvalt is dat er bijvoorbeeld bijna 100 arbeidsomstandighedenspreekuren (AGS) zijn geweest bij een bedrijfsarts. Deze spreekuren zijn preventief: personen zijn aan het werk maar hebben vragen over hun gezondheid met betrekking tot het werk. Uit de cijfers van HCC blijkt dat het voor de UT geen uitzonderlijke aantallen zijn maar vanuit onze ervaring bij vergelijkbare werkgevers vinden we dit aan de hoge kant. Enerzijds is dit een signaal dat men de weg goed kan vinden, anderzijds kan het ook een signaal zijn dat gesprekken over de werkvermogen en bijvoorbeeld de balans tussen privé en werk nog onvoldoende met de eigen LG gevoerd kan worden. Wij houden geen aparte registratie bij van de redenen waarmee personen op het AGS komen. Reden voor AGS is dat men andere vaak aanvullende adviezen vraagt over diverse werkgerelateerde factoren zoals houden van balans, omgaan met werkdruk, onvrede met de werksituatie/leidinggevende.

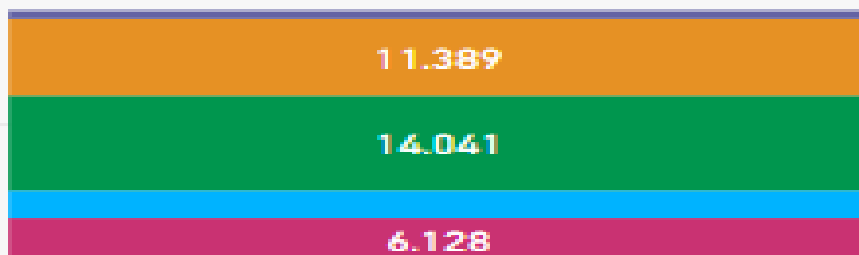
In de onderste tabel ziet u hoe vaak er een afspraak is ingepland maar waar de betreffende persoon niet is verschenen (NV). Dat komt nog vaak voor.

In percentages blijkt 14% van het totaal aantal uitgenodigde personen niet te zijn verschenen. Kijken we alleen naar het verzuimspreekuur dan gaat het om bijna 19%. Dit zijn forse aantallen, en het gaat natuurlijk ook ten koste van uw budget.

## 1.4 Kerncijfers over de verzuimdagen.

### Kort-midden-lang verzuim

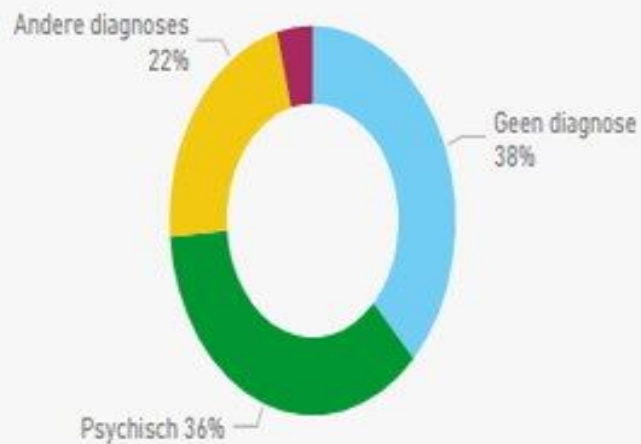
36.879



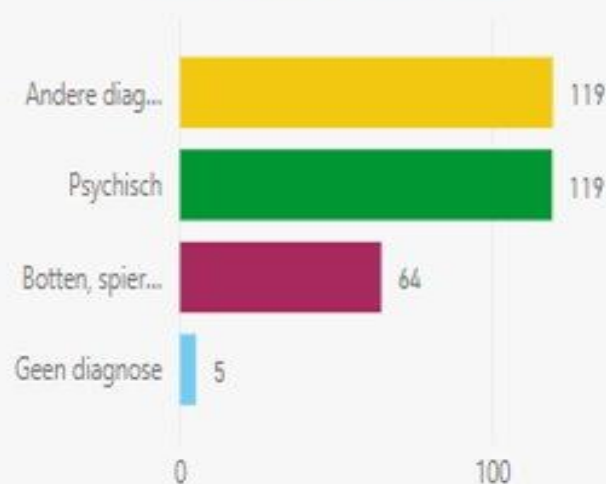
2018

t/m 1 wk 1-6 wk 6wk-1jr 1-2 jr 2+ jr N/A

### Diagnose in % van # verzuimdagen



### Gem. verzuimduur per diagnose



## Verzuimdagen 2018

We kunnen alleen gegevens verschaffen over de bij ons geregistreerde verzuimdagen. We zijn op 1 januari 2018 begonnen als u dienstverlener. Elke Arbodienst hanteert de eigen interne afspraken over de – vaak fluide – grenzen tussen verzuimoorzaken. Hierdoor kan de registratie van het verzuim per Arbodienst anders uitpakken en vergelijken we op dit punt niet, of voorzien van een disclaimer.

In totaal hebben we in 2018 36.879 verzuimdagen geregistreerd. Daarvan wordt het grootste deel veroorzaakt door verzuim met een duur tussen de 6 weken en 1 jaar. Het aantal verzuimdagen tussen > 1 jaar en < 2 jaar bedraagt 11.389

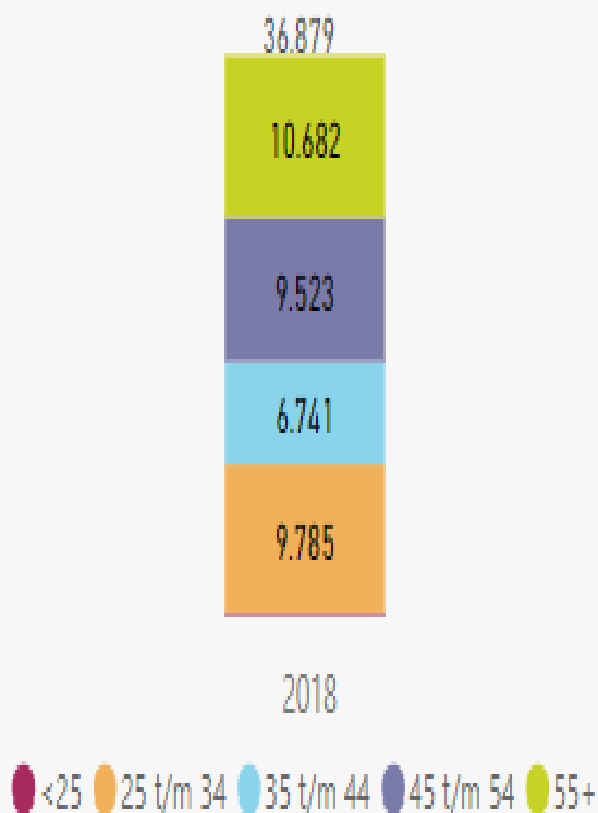
In de tabel ziet u de overige verdelingen.

Als een persoon wel bij ons geregistreerd is als 'verzuimend' maar niet door een Verzuimconsulent (VC) of Bedrijfsarts gezien is, hebben we geen diagnose toegekend. Dit is in 38% van de verzuimdagen het geval. De gemiddelde duur van verzuim zonder diagnose is 5 dagen. Over het algemeen zien we in de spreekkamer alleen de personen met een middellang of een lang verzuim.

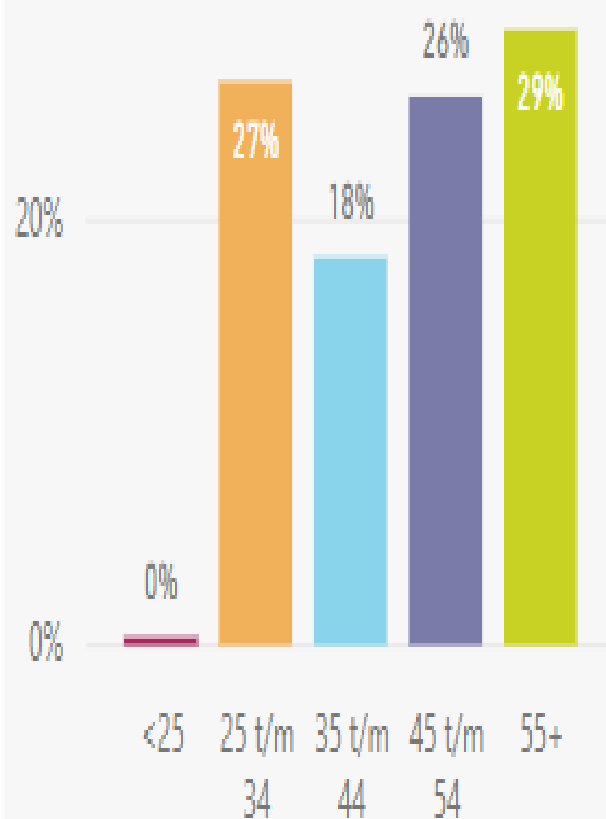
De diagnose 'psychisch' en 'andere diagnoses' levert een gemiddelde verzuimduur van 119 dagen op. Verzuim veroorzaakt door botten en spieren duurt gemiddeld 64 dagen.

## 1.4 Verdeling van het aantal verzuimdagen over de leeftijdscategorieën.

Aantal verzuimdagen per leeftijdscategorie



Verzuimdagen in % per leeftijdscategorie

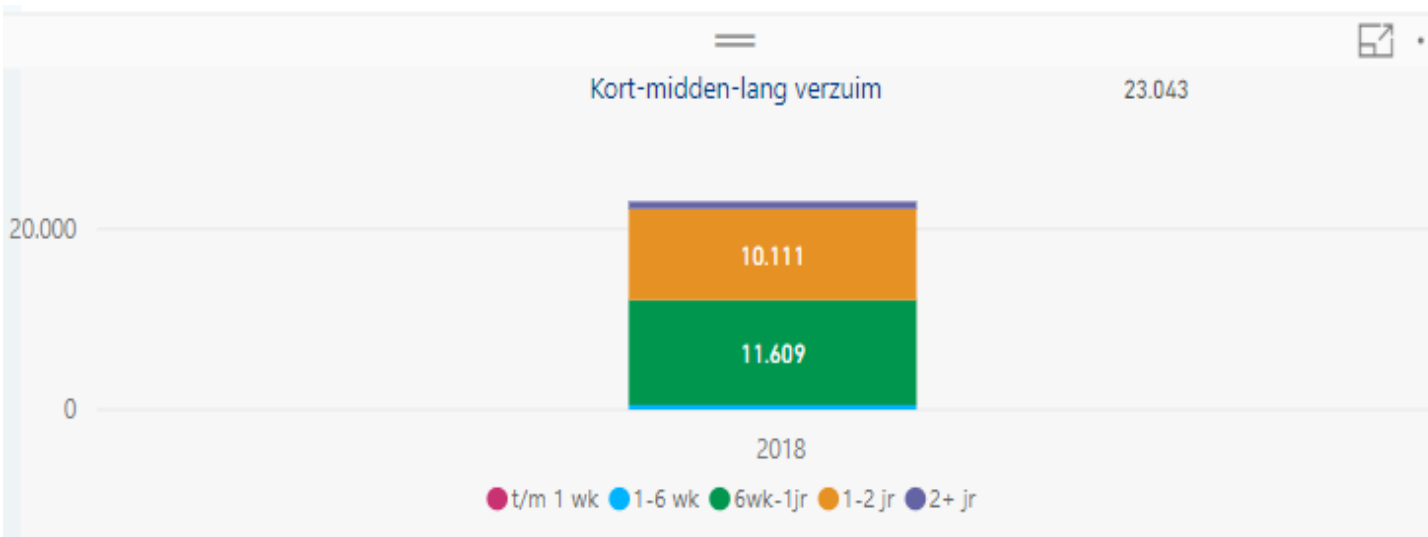


Om de verdeling per leeftijdscategorieën te kunnen beoordelen is het nodig om de opbouw van de werknemerspopulatie er naast te leggen.

We raden u aan om dat wel te doen: wij kunnen dit niet voor u doen. Als bijvoorbeeld de 55+ groep maar 10 % van de populatie is, en wel voor 29% van het aantal verzuimdagen zorgt dan is dit een zorgelijk signaal.

Als gevolg van de AVG hebben we deze gegevens niet. Hierdoor kunnen we ook niet vanuit onze gegevens verzuimpercentages of meldingsfrequenties berekenen: daarbij gaan we uit van de gegevens van de UT.

## 1.4 Verzuimdagen waar een diagnosecode aan toegekend is.

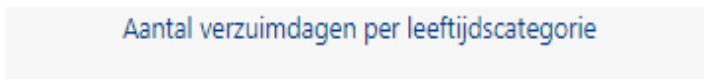
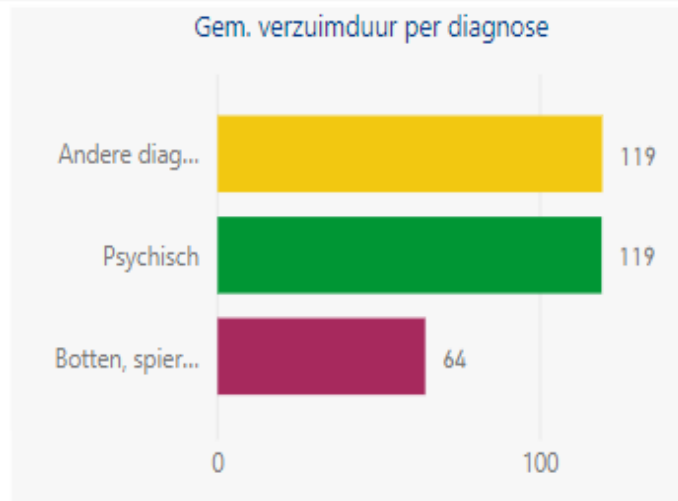
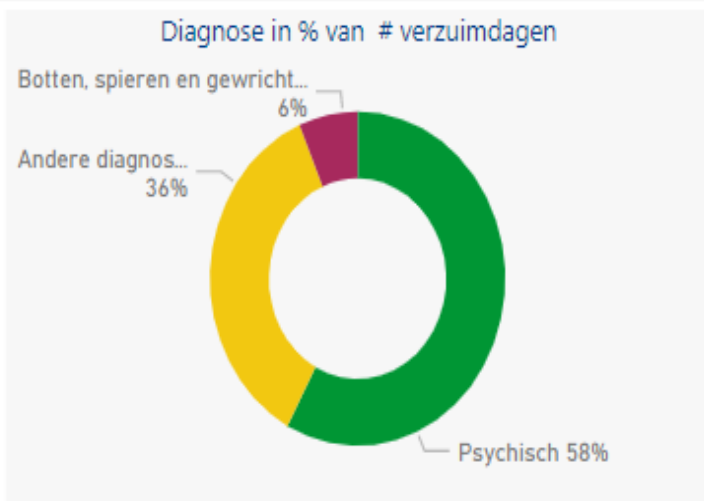


Als we de 38% verzuimdagen zonder diagnose uit de cijfers halen hebben we zicht op de verdeling van de wel gediagnosticeerde verzuimdagen.

Wat opvalt is dat, van de wel gediagnosticeerde dagen, er 58 % veroorzaakt worden door verzuim dat hoofdzakelijk een psychische oorzaak heeft.

Dit ligt overigens in de lijn der verwachtingen bij een organisatie als de UT: er werken veel hoogopgeleide personen in een kennisintensieve omgeving. Psychische kwetsbaarheid beïnvloed al snel het arbeidsvermogen, eerder dan een fysieke klacht.

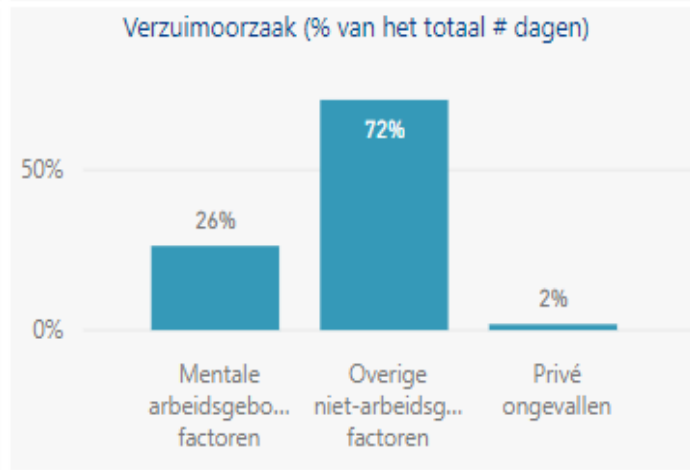
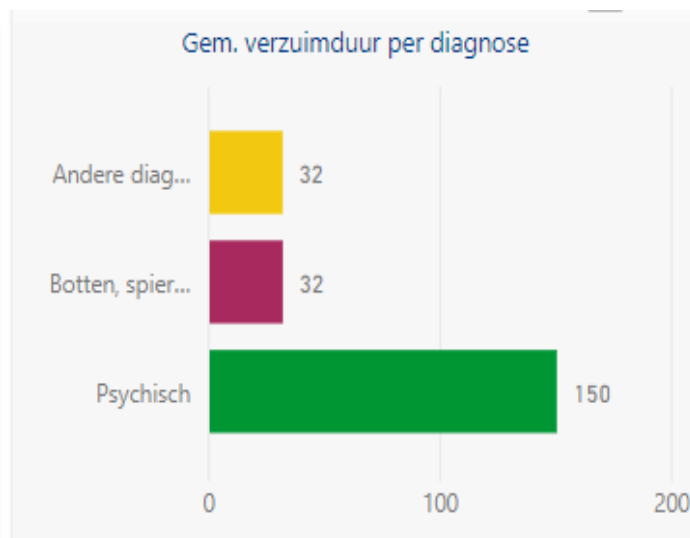
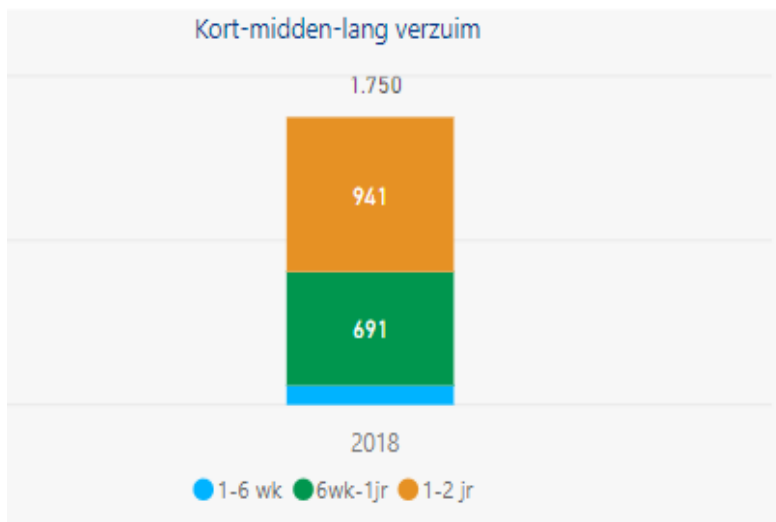
Gemiddeld duurt het verzuim 119 dagen, dat is in vergelijking met andere organisaties wat aan de lange kant. Het zou erop kunnen wijzen dat er in het re-integratieproces winst te behalen valt.





## 1.4 Het aantal verzuimdagen met diagnose, leeftijd 25-34 jaar.

Diagnose



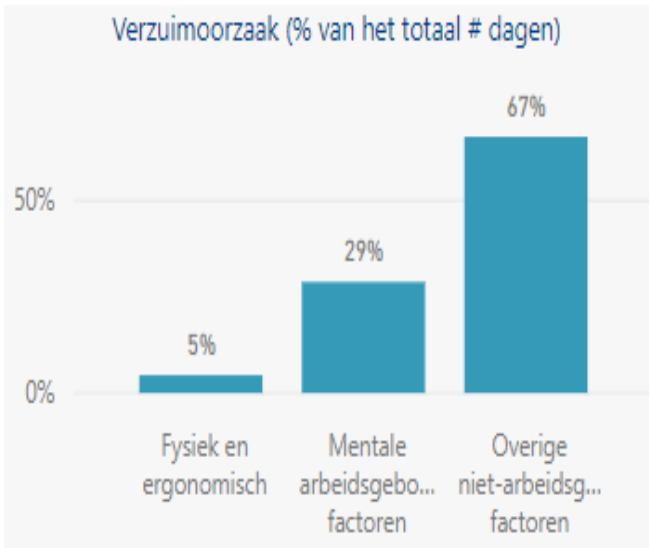
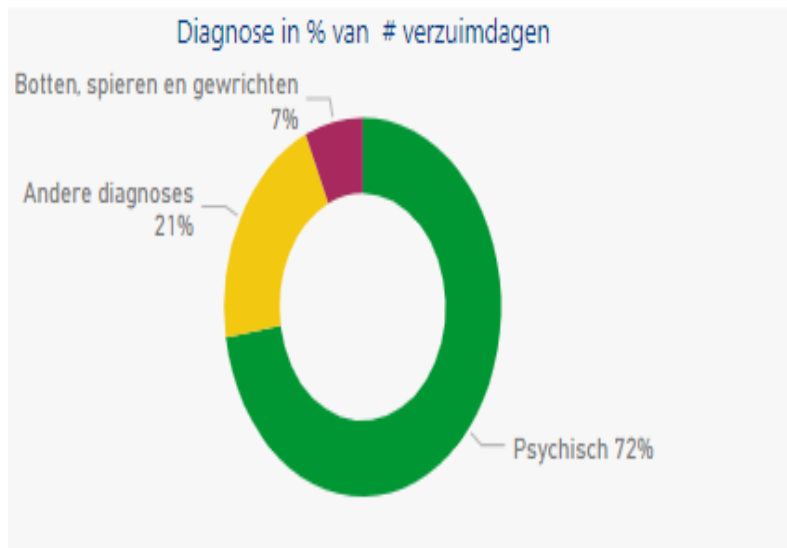
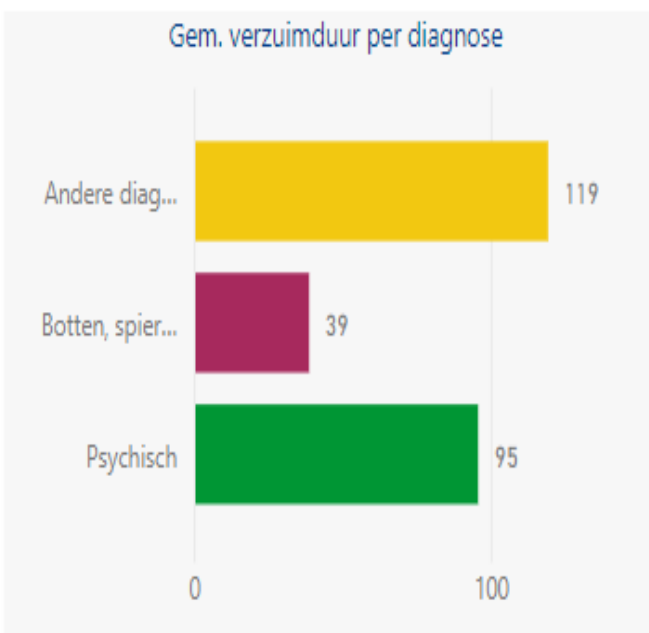
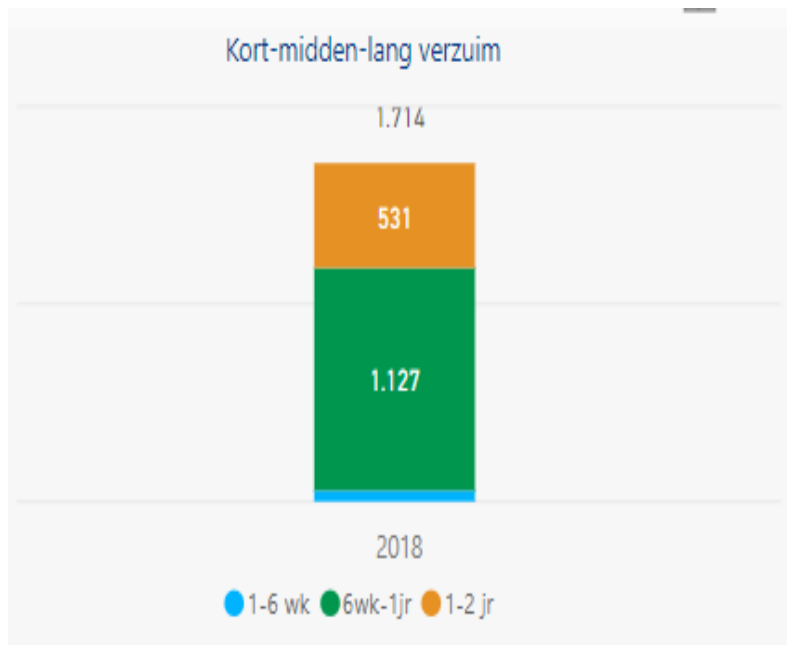
Van het aantal verzuimdagen in de leeftijd 25-34 jaar is het percentage dagen dat een diagnose heeft toegekend voor 95% psychisch verzuim. De gemiddelde duur ervan is in deze categorie 150 dagen, langer dan het gemiddelde in de hele populatie (119 dagen).

Het is een levensfase waarin over het algemeen veel op mensen afkomt, en waar het verwerven van een positie in hun professionele loopbaan en vaak wordt gecombineerd met het aangaan van een duurzame relatie en/of het stichten van een gezin.

En van deze 95% is 26% mentaal arbeidsgebonden verzuim. Deze kwalificatie wordt alleen toegekend als de grootste oorzaak van het psychische verzuim in het werk gezocht moet worden en niet in de persoon of privéomstandigheden.

Denk bij mentaal arbeidsgebonden verzuim aan zaken als arbeidsinhoud, arbeidsomstandigheden, arbeidsvoorwaarden en arbeidsverhoudingen.

# 1.4 Het aantal verzuimdagen met diagnose, leeftijd 35-44 jaar

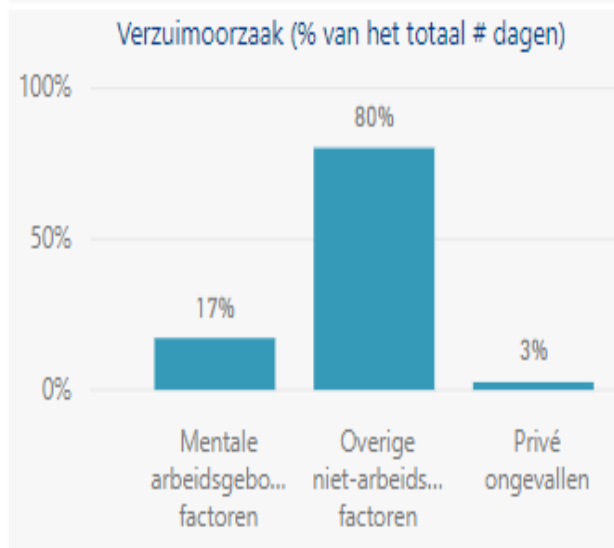
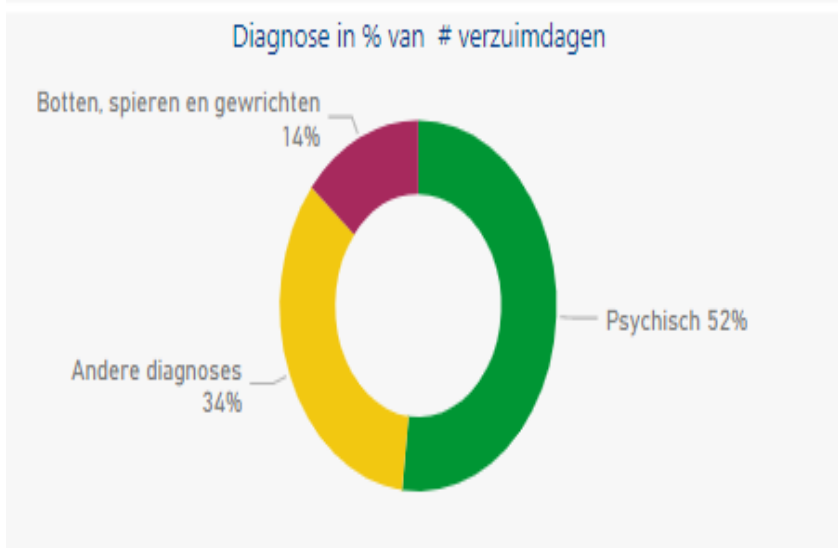
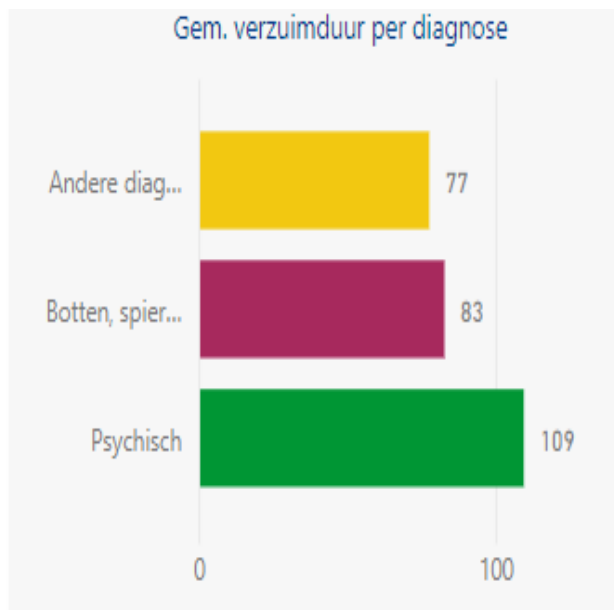
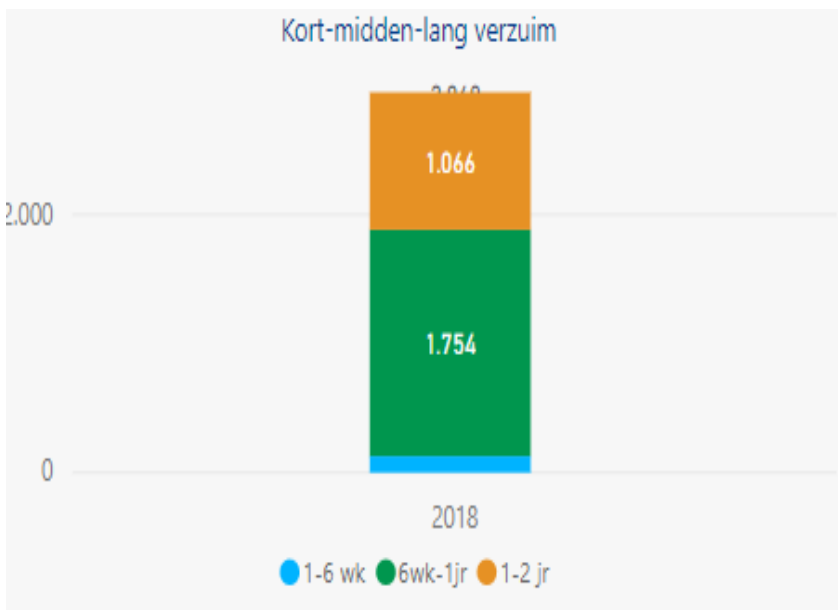


Van het aantal verzuimdagen in de leeftijd 35-44 jaar dat een diagnose heeft toegekend is 72 % psychisch verzuim.

De gemiddelde duur ervan is in deze categorie 95 dagen, veel minder dan het gemiddelde in de hele populatie (119 dagen)

Ook in deze leeftijdscategorie heeft het mentale arbeidsgebonden verzuim met 29% een behoorlijk aandeel, meer dan het dubbele dan het gemiddelde van 14% (zie dia 18).

## 1.4 Het aantal verzuimdagen met diagnose, leeftijd 45 –54 jaar



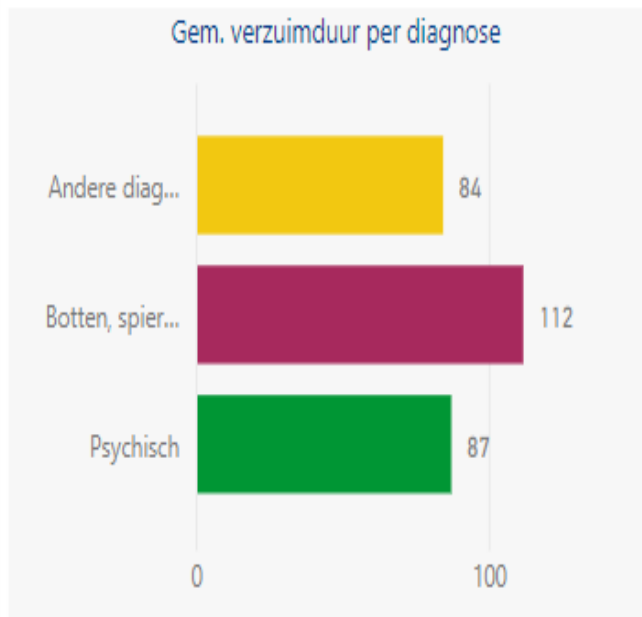
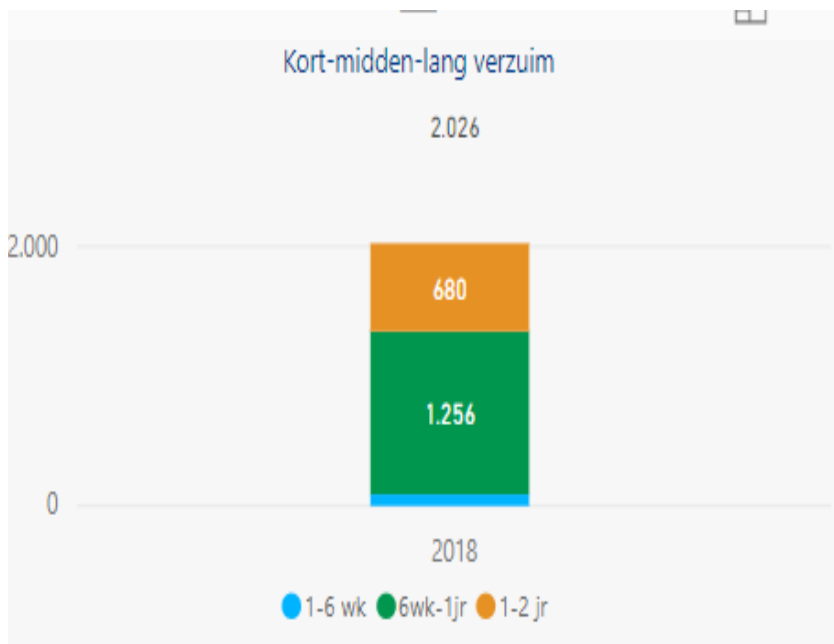
Van het aantal verzuimdagen in de leeftijd 45-54 jaar is het percentage dagen dat een diagnose heeft toegekend voor 52 % psychisch verzuim.

De gemiddelde duur ervan is in deze categorie 109 dagen, iets minder dan het gemiddelde in de hele populatie (119 dagen)

Ook in deze leeftijdscategorie heeft het mentale arbeidsgebonden verzuim met 17% een kleiner aandeel dan bij de jongere collega's. Een verklaring hiervoor is dat we te maken hebben met een groep ervaren medewerkers die hun eigen coping mechanismen inmiddels hebben ontwikkeld, en keuzes gemaakt hebben in hun leven en loopbaan waardoor ze vaak wat stabiel zijn. Dit wordt ook wel 'the survival of the fittest' genoemd.

We zien wel het aantal verzuimdagen als gevolg van andere diagnoses of botten, spieren en gewrichten stijgen ten opzichte van de jongeren, en dit is ook in lijn met de verwachtingen.

## 1.4 Het aantal verzuimdagen met diagnose, leeftijd 55 jaar en ouder.

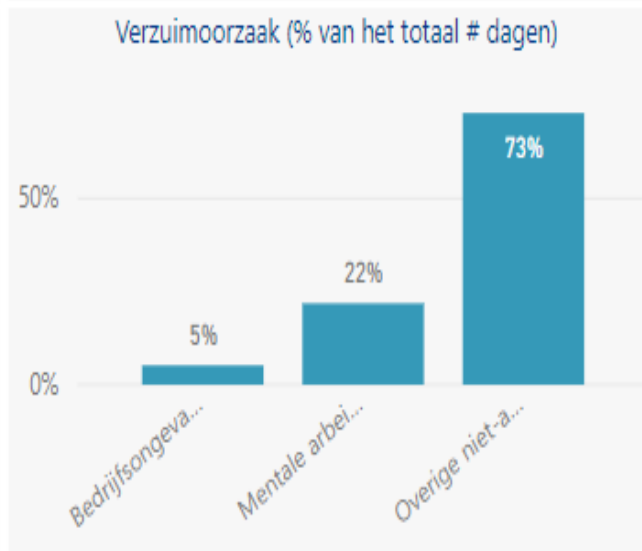


Van het aantal verzuimdagen bij de personen die ouder zijn dan 55 jaar en dat een diagnose is toegekend is 52 % psychisch verzuim.

De gemiddelde duur ervan is in deze categorie 87 dagen, veel minder dan het gemiddelde in de hele populatie (119 dagen). We verklaren dat ook in deze groep middels het 'survival of the fittest' syndroom.

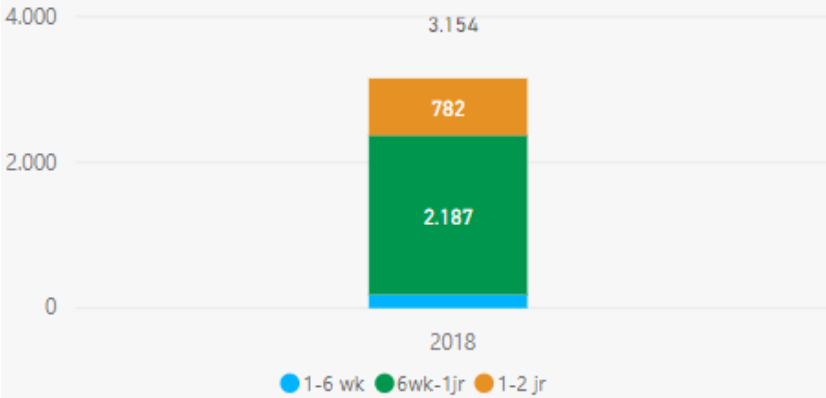
Het mentale arbeidsgebonden verzuim met 22%. een kleiner aandeel dan bij de jongere collega's.

We zien wel het aantal verzuimdagen als gevolg van andere diagnoses dan botten, spieren en gewrichten stijgen ten opzichte van de jongeren.

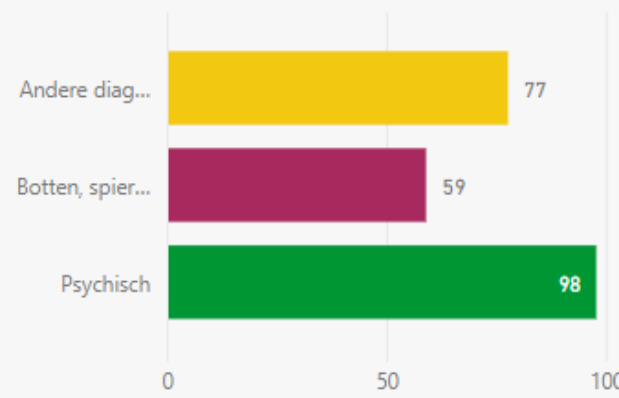


## 1.4 Het aantal verzuimdagen met diagnose, mannen.

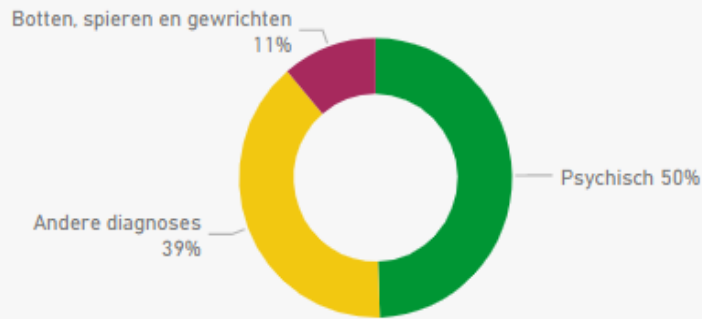
Kort-midden-lang verzuim



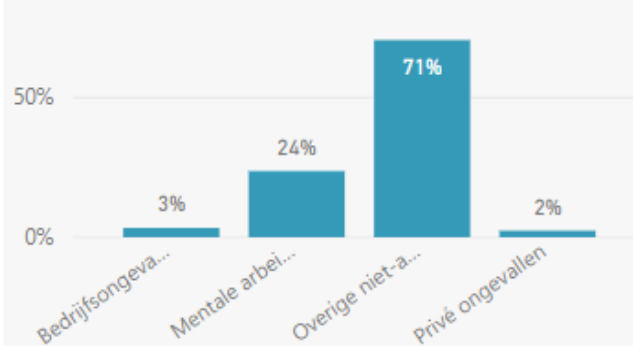
Gem. verzuimduur per diagnose



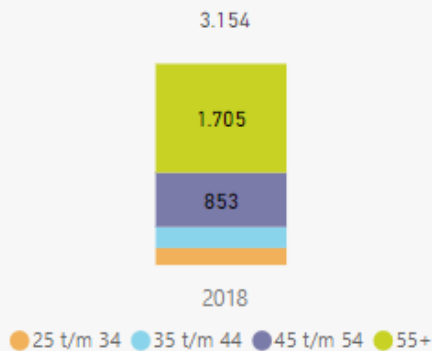
Diagnose in % van # verzuimdagen



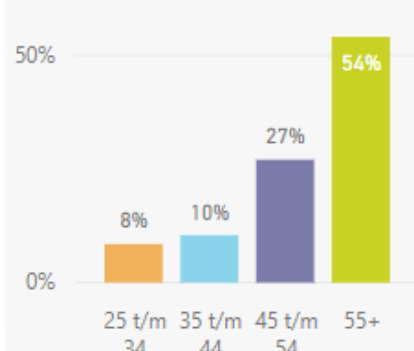
Verzuimoorzaak (% van het totaal # dagen)



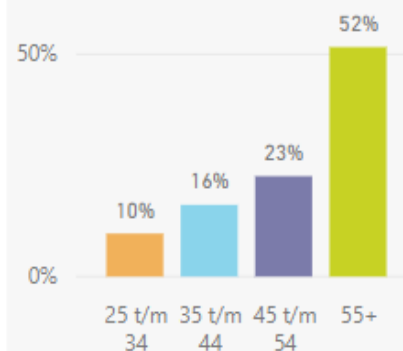
Aantal verzuimdagen per leeftijdscategorie



Verzuimdagen in % per leeftijdscateg...



Meldingen in % per leeftijdscategorie

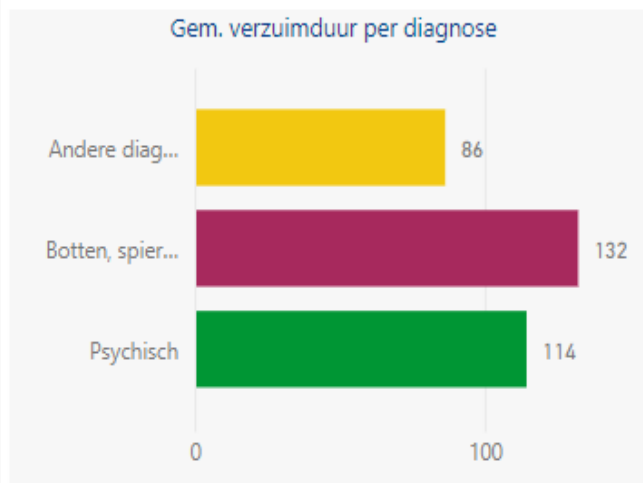
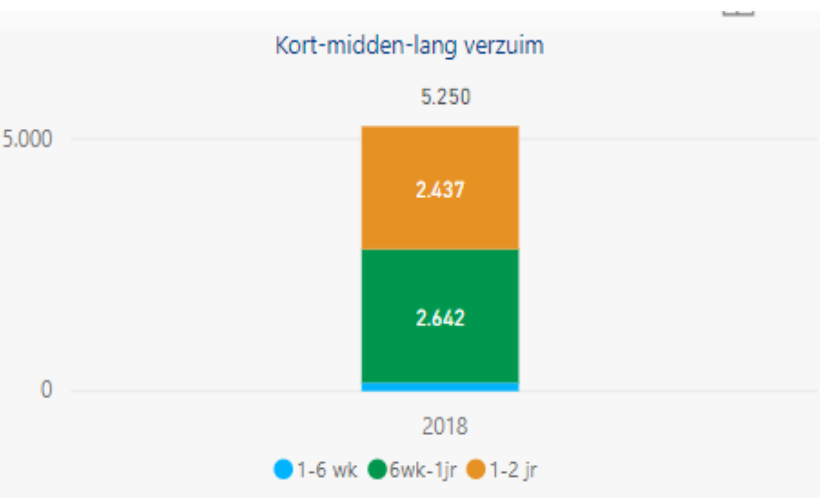


We zien dat het grootste aantal verzuimdagen bij de mannen wordt veroorzaakt door de 55 plussers: maar liefst 52% van de meldingen komt uit deze categorie.

Als we meteen de vergelijking met de vrouwen maken (volgende sheet) dan is dat bij de vrouwen maar 6%. Ook hier raden we u aan om deze cijfers naast de verdeling van de populatie te leggen. Het kan haast niet anders of u heeft echt heel veel meer 55+ mannen in dienst dan 55+ vrouwen.

Overigens wordt bij de mannen 50% van de dagen veroorzaakt door psychisch verzuim, met een gemiddelde duur van 98 dagen. Dit cijfer is lager dan dat bij de vrouwen. Op basis van onze ervaring verwachten we bij mannen wel wat meer onderrapportage bij ziekte dan bij vrouwen: doorwerken met klachten, en de weg naar de hulpverlening minder goed kunnen vinden., omdat bekend is dat mannen eerder somatiseren dan vrouwen. Door emancipatie van de mannen lijkt dat verschil kleiner te worden.

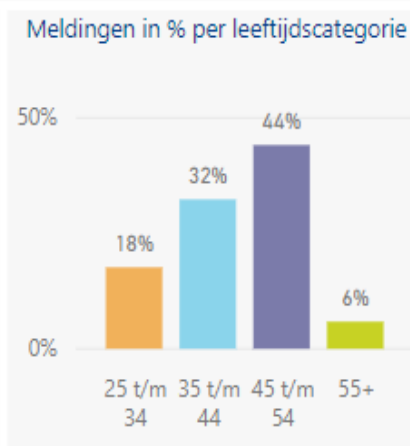
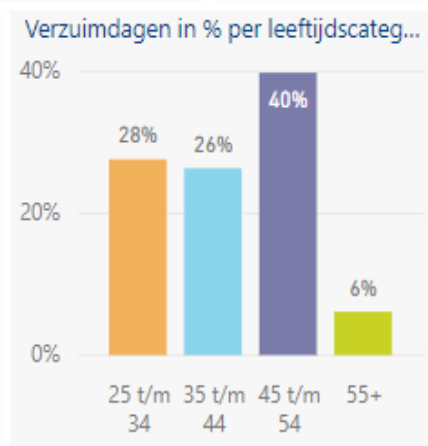
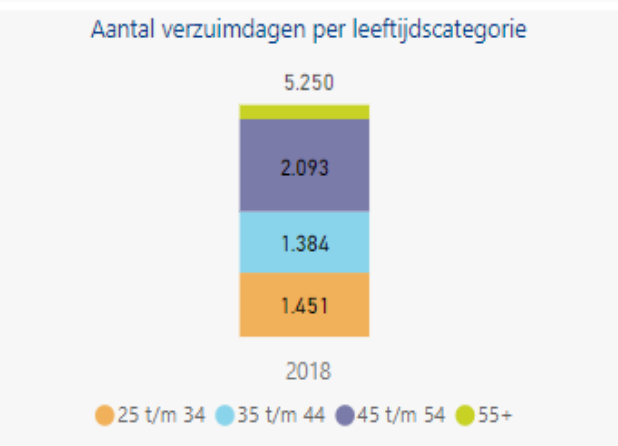
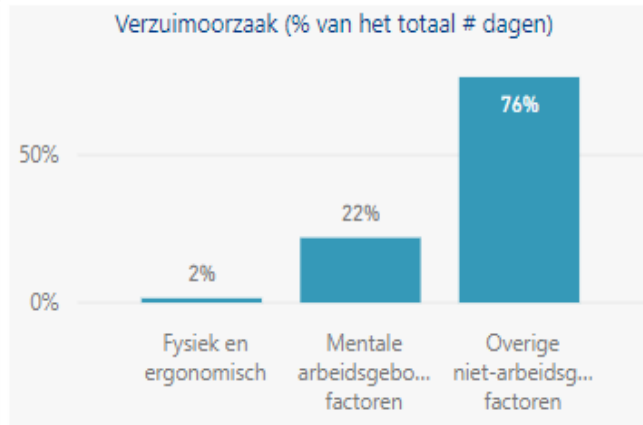
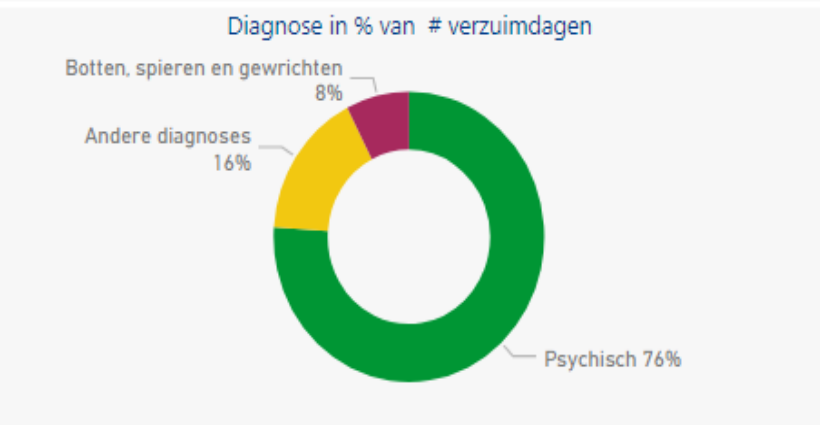
## 1.4 Het aantal verzuimdagen met diagnose, vrouwen



Het aantal verzuimdagen met diagnosecode 'psychisch verzuim' bij vrouwen is veel groter (76%) dan bij mannen (50%).

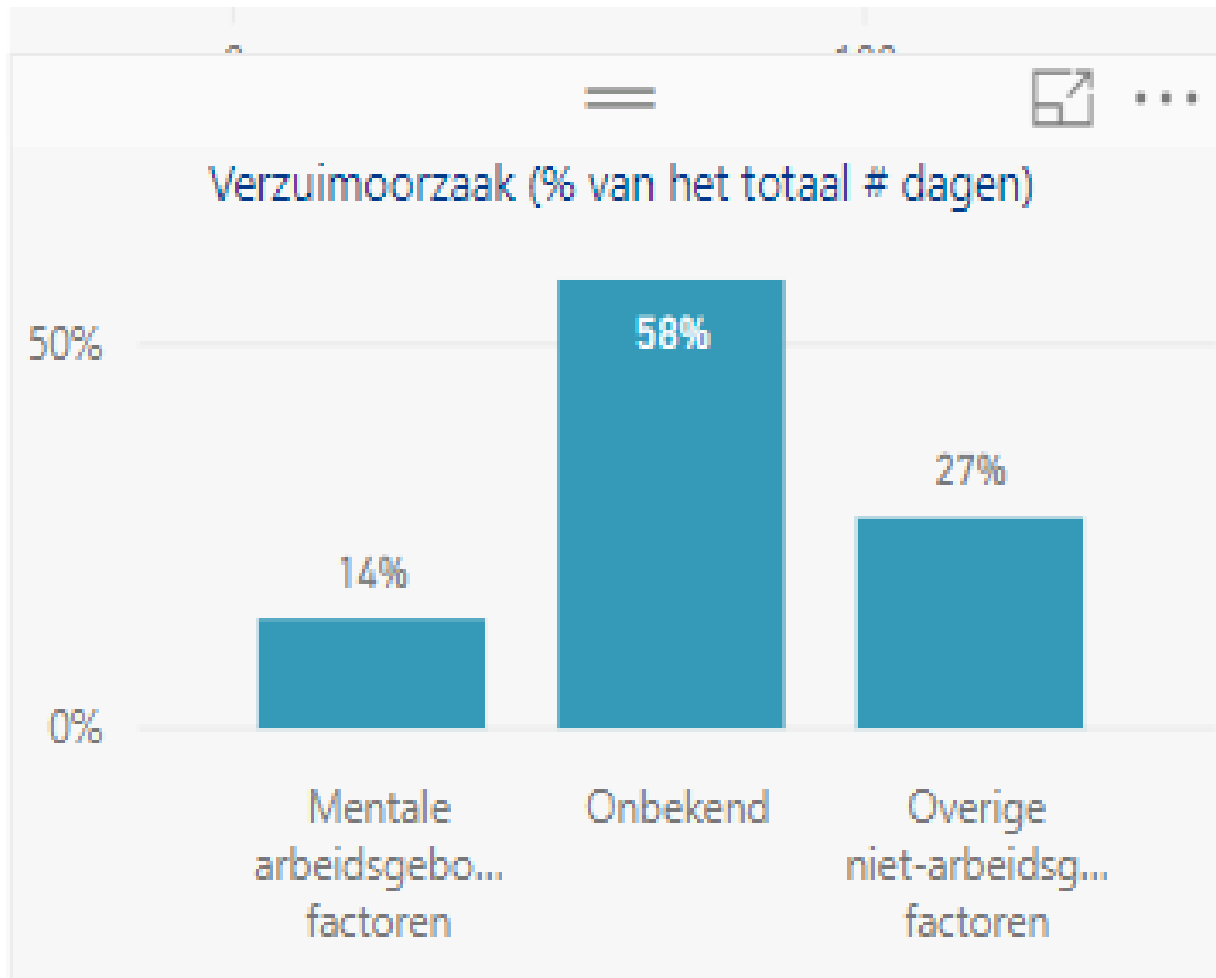
In de praktijk zien we dat er bij vrouwen vaker dan bij mannen sprake is van overbelasting, en een onbalans tussen privé en werk. Vrouwen hebben nog steeds vaker, naast het werk, ook de zorg voor kinderen of zijn mantelzorger. Wat ook kan meespelen is de organisatiecultuur van de UT: het is een mannenwereld waarvan het bekend is dat vrouwen harder moeten werken om hun positie te veroveren en te behouden. In de top van de UT, en vergelijkbare organisaties, zijn vaak weinig vrouwen 'overgebleven'. De vrouwen die er wel terecht zijn gekomen ervaren vaak een grote druk om als role-model te functioneren.

De gemiddelde duur bij de vrouwen is ook langer: 114 dagen bij de vrouwen en 98 dagen bij de mannen.



## 1.5 Oorzaken van het psychisch verzuim (58% van het totaal aantal verzuimdagen) .

Arbo Unie hanteert een andere definitie van 'arbeidsgebonden' psychisch verzuim dan uw vorige arbodienst. De cijfers zijn daardoor niet met elkaar te vergelijken.



Arbo Unie geeft psychisch verzuim alleen het label 'mentaal arbeidsgebonden' als de hoofdoorzaak van het verzuim gelegen is in het werk en niet ook (voor een groot deel) in de persoon of die privéomstandigheden. We zijn dus erg voorzichtig met het etiket 'mentaal arbeidsgebonden'. We kennen niet de richtlijnen van uw vorige arbodienst waardoor het lastig is om de cijfers te vergelijken.

14% van het totale psychisch verzuim is arbeidsgebonden. In een organisatie met onderwijsgevenden en OOP is dit 25%. Bij de mannen wordt dit voornamelijk veroorzaakt door de lft categorie 55+, en bij de vrouwen gaat het om de leeftijdsgroep 45-55 (50% van de meldingen).

We hebben hier geen goed onderbouwde verklaring voor.

### 1.5 Het percentage van alle verzuimdagen (met en zonder diagnose) dat veroorzaakt wordt door psychisch verzuim, verdeeld over leeftijdscategorieën.

	UT	Benchmark
Totaal	36 %	28 %
25-34 jaar	45 %	31 %
35-44 jaar	39 %	41 %
45-54 jaar	35 %	21 %
55+	27 %	24 %

In deze tabel zoomen we in op de verschillen tussen de UT en vergelijkbare academische organisaties in Nederland.

Psychische overbelasting als oorzaak voor verzuim staat in de academische wereld erg in de belangstelling. We kunnen ons voorstellen dat het interessant is om te zien in hoeverre de cijfers van de UT overeenkomstig zijn met vergelijkbare organisaties. We beschikken wel over een goed bruikbare benchmark, deze is echter wel anoniem.

Wat opvalt is dat – met uitzondering van de categorie 35 tot 44 jaar – er bij de UT sprake is van meer psychisch verzuim.

Niet uit de tabel te halen maar voor ons wel opvallend in de cijfers:

Bij de 55+ is 37% van de verzuimdagen veroorzaakt door echt pure medische problemen. Dit is afwijkend van NL.



### 1.5 Het percentage van alle verzuimdagen (met en zonder diagnose) dat veroorzaakt wordt door psychisch verzuim, verdeeld over leeftijdscategorieën en geslacht.

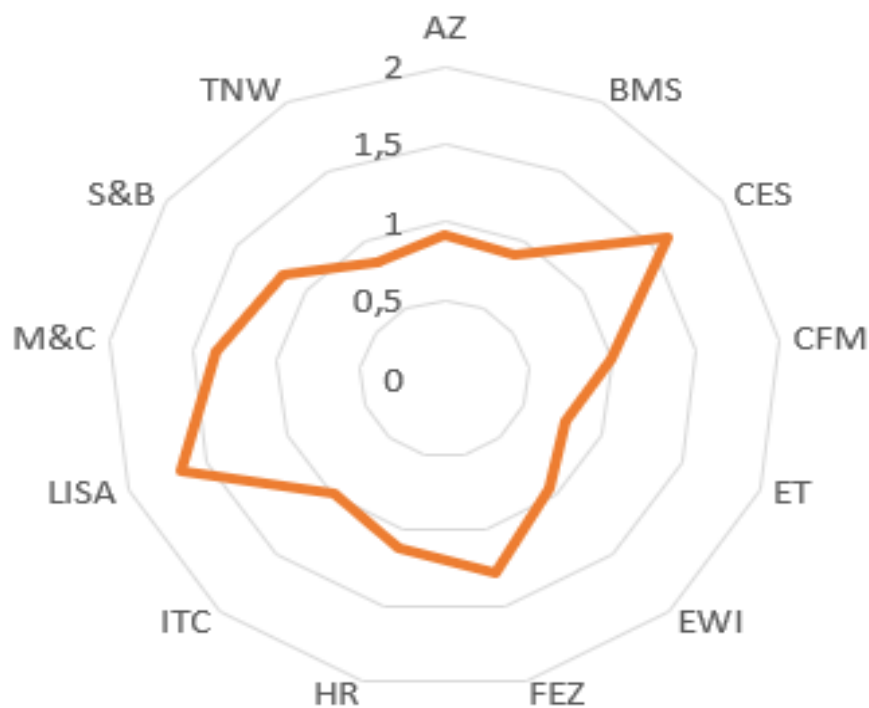
	UT Vrouwen	Benchmark Vrouwen	UT Mannen	Benchmark Mannen	
Totaal	43%	39%	28%	16%	<p>Vooraf de mannen doen het bij de vergelijkbare organisatie beter.</p> <p>We kunnen hier niet al te veel conclusies aan verbinden, maar willen vooral een trend aangeven.</p> <p>Wat we wel kunnen concluderen is dat er mogelijkheden zijn om het arbeidsgebonden psychische verzuim positief te beïnvloeden.</p> <p>Opnieuw kunt u dan denken aan maatregelen die zich richten op de arbeidsinhoud, de arbeidsvoorwaarden, de arbeidsomstandigheden en/ of de arbeidsverhoudingen.</p>
25-34 jaar.	53%	37%	31%	22%	
35- 44 jaar	43%	53%	32%	12%	
44-54 jaar	41%	34%	25%	5%	
55+	29%	32%	26%	19%	

## 1.6 Meldingsfrequentie per afdeling.

De meldingsfrequentie (MF) geeft aan hoe vaak de medewerkers zich per jaar gemiddeld ziekgemeld hebben. Als er 100 medewerkers zijn die zich allemaal 1 x ziekmelden is de MF 1. Elke organisatie heeft een substantieel percentage 0-verzuimers ( personen die zich niet ziekgemeld hebben)

Een meldingsfrequentie van 1 wordt gehanteerd als een acceptabel uitgangspunt. Een hogere MF kan duiden op een situatie die aandacht behoeft.

meldingsfrequentie per afdeling



Bijgevoegde tabel is gebaseerd op de cijfers van de Universiteit van Twente

De gemiddelde MF van de UT is 0.97 bij een verzuimpercentage van 3,47. Dit is overeenkomstig met wat we zouden verwachten bij een kennisintensieve, complexe organisatie als de UT.

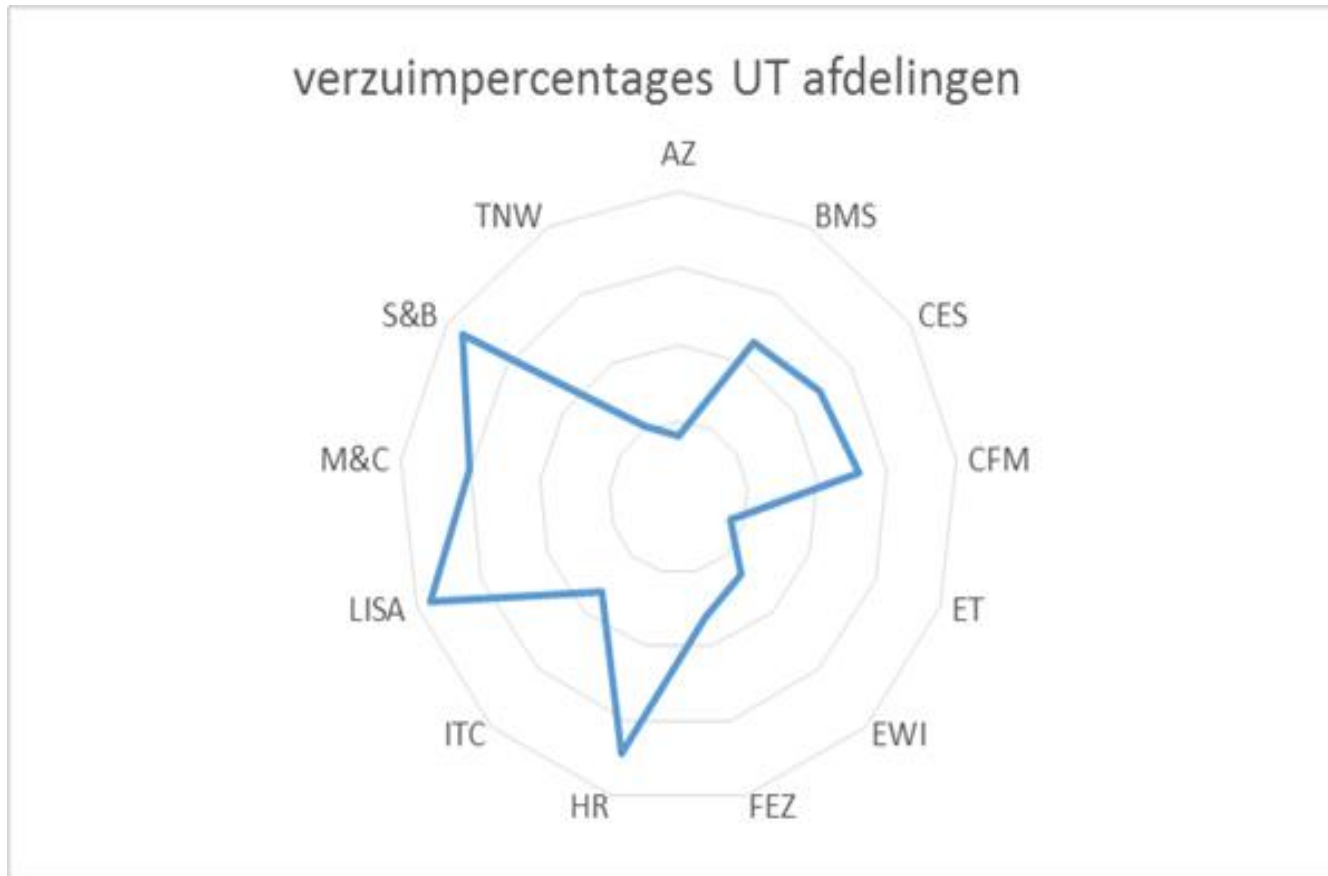
We zien grote verschillen tussen de afdelingen. We raden u aan om bij een MF > 1 nader te bespreken of dit voor u een herkenbaar beeld is, en of u een nader onderzoek naar de oorzaak wil doen.

Wat opvalt dat met name de ondersteunende diensten een hoge MF hebben. Een deel van de verklaring kan zijn dat deze personen minder regelmogelijkheden ervaren en zich eerder genoodzaakt zien om zich af te melden.

Daarentegen verwachten we er bij een faculteit als TNW een onderrapportage: personen die wel ziek zijn maar zich niet (hoeven te) melden. Oorzaken hiervoor zijn een grotere invloed op de locatie en tijdstip van werken, grote betrokkenheid etc.

## 1.7 Verzuimpercentages visueel vergeleken.

Bijgevoegde tabel is gebaseerd op gegevens van de Universiteit van Twente



As we de verzuimpercentages per afdeling in een taartdiagram tegen elkaar uitzetten valt meteen op hoe groot de verschillen zijn tussen de eenheden. Het gaat ons niet zozeer om absolute verzuimcijfers maar veel meer om de vergelijking.

Het zou voor u interessant zijn om de ontwikkelingen per eenheid eens naast het verzuim per afdeling te leggen. Wij beschikken niet over voldoende inzicht in de eenheid specifieke kenmerken. We weten bijvoorbeeld wel dat er bij S&B de nodige organisatorische ontwikkelingen hebben plaatsgevonden in 2018 die een verklaring kunnen zijn.

## 2.1 Bevindingen van de betrokken professionals.

We bespreken als multidisciplinair team wat ons opvalt tijdens het werken voor de UT. We zijn nu een jaar voor de UT aan de slag en leren u als organisatie steeds beter kennen. U heeft de beschikking over een vast team van, over het algemeen, erg ervaren professionals. Ieder van ons is ook bij een aantal andere organisaties betrokken. Dit geeft ons, zeker als team, een unieke positie: we kunnen u vertellen wat ons opvalt, wat u heel goed doet en wat u kunt verbeteren. Daarbij hebben we wel een beperking. We realiseren ons heel erg goed dat we in de spreekkamers te maken hebben met een heel klein deel van uw populatie, en niet op hun beste momenten. We waken er dan ook voor om onze ervaringen met hen door te trekken naar de hele organisatie.

In onze 150 dagen gaven we u al eerder inzicht in wat ons opvalt. De meeste van onze bevindingen van een half jaar geleden staan nog overeind, met een voorbehoud over de operationele zaken: leidinggevendenden weten ons beter te vinden voorafgaand aan een spreekuurconsult en binnen een aantal faculteiten/diensten is het aantal no shows duidelijk verminderd. Die hebben we in de afgelopen 6 maanden kunnen verbeteren.

De strategische en tactische samenwerking behoeft echter nog verdere aandacht. In de vooruitblik geven we aan hoe we dit vanuit onze kant graag vorm willen geven.

**ZEGGEN  
WAT JE DENKT  
KAN OOK  
IETS AARDIGS ZIJN**

## 2.2 Bevindingen: Samenwerking met de UT.

Wat direct in het oog springt is zijn de grote verschillen tussen de verschillende faculteiten en diensten. Er is eigenlijk geen sprake van een geheel maar aan een netwerk van verschillende organisatieonderdelen, ieder met een eigen thema's, dynamiek en context. Overigens is dit een bekend beeld in de universitaire wereld, en maakt ook dat een universiteit vanuit dit oogpunt niet te vergelijken is met andere organisaties of het reguliere bedrijfsleven.

De samenwerking verloopt over het algemeen plezierig en in goede harmonie. We merken hoe ingewikkeld het is om in een dynamische en complexe context als de UT goed (preventief) beleid te maken, en dat zote implementeren dat het ook voor alle medewerkers beschikbaar is. Met beschikbaar bedoelen we: geaccepteerd, bekend, toegankelijk, tijdig en passend. Dit is ook voor u natuurlijk geen nieuws.

Als voorbeeld noemen we de preventie van werkdruk. Werkdruk bij de Universiteiten staat erg in de belangstelling, er zijn aanhoudende signalen van structurele, in de sector gelegen, oorzaken van werkdruk die niet gemakkelijk te beheersen zijn. We zien dat op de UT het besef en het belang van het geïntegreerd en gezamenlijk aanpakken van de werkdruk groot is. Er worden zeker bij de centrale stafafdelingen als HR, grote inspanningen verricht om de kennis en inzichten op dit domein te vergroten. We hebben echter het idee dat deze inzichten niet snel leiden tot adequate interventies. De structuur van autonome faculteiten maakt dat er in onze ogen nog te weinig samenhang en synergie gevonden wordt tussen de centrale afdeling, de autonome faculteiten en de arbodienst in de preventieve aanpak.

De aanpak van werkdruk is in de praktijk nog vaak curatief, en gericht op het individu. Hoewel iedereen het goed bedoelt hangt er toch iets van 'blame the victim' omheen: als je niet tegen de werkdruk kan is dat een vorm van 'niet voldoen' of niet tegen de druk kunnen. Zo'n onderstroom helpt niet om medewerkers uit te nodigen om zelf pro-actief en preventief om hulp te vragen als dat nodig is. De geboden hulp is bovendien vooral gericht op het individu en neemt niet de invloedrijke rol van de context, en dus de arbeidssituatie, waarin het werk verricht wordt in ogenschouw.

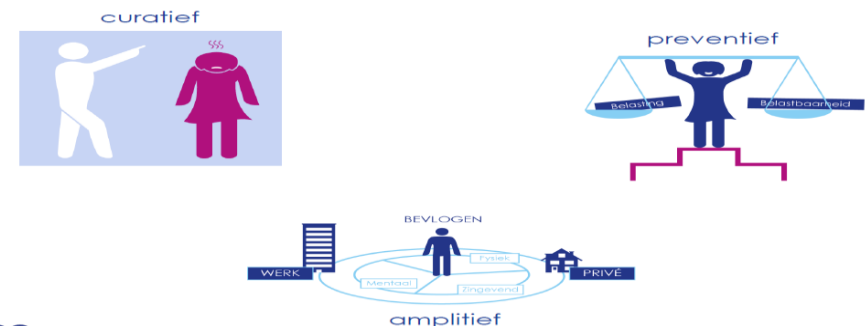
## 2.2 Bevindingen: Samenwerking met de UT.

Wat ons echt opvalt is de invloed van het academische klimaat op het ontwikkelen en implementeren op het beleid. We zien een grote focus op 'cijfers en bewijs', en dan bezien vanuit een academische bril. Het lijkt erop dat – bijvoorbeeld in de spreekkamer voorgestelde - interventies voornamelijk acceptabel zijn als ze ook wetenschappelijk effectief zijn gebleken. Dit versmalt de keuze voor activiteiten en interventies en maakt besluitvormingsprocessen in onze ogen soms onnodig stroperig.

Overigens is bij ons ook weleens de gedachte opgekomen dat deze roep om 'wetenschappelijk bewezen' interventies ook zelf een opgelegde beperking is, om te voorkomen dat er later kritiek zou kunnen komen. We hebben het gevoel dat 'voorkomen van fouten' een belangrijke driver van het gedrag is. Dit zorgt voor voorzichtigheid en aarzeling in de besluitvorming en implementatie van beleid. Durf ook lef te hebben, 'bewezen inzichten' worden ook ergens door vooraf gegaan.

Waar we met bewondering naar gekeken hebben is de themamaand 'werkdruk'. Prima opgezet, mooie vraagstelling. We konden er op meerdere manieren aan bijdragen. Onze CHO Willem van Rhenen mocht de opening verrichten, meerder collega's hebben kunnen meedenken. De introductie van het amplitieve denken over leidinggeven, als logische opvolging van het balans denken, werd goed ontvangen. We merken wel dat het voor ons na zo'n themamaand lastig is om nog te overzien wat nu de vervolgstappen zijn en hoe die worden ervaren. Er lijkt veel aandacht te zijn voor het maken van beleid, en minder voor het doorleven en implementeren van datzelfde beleid.

Leiding geven: het juiste mensbeeld



## 2.3 Bevindingen: wat valt op in het contact met de medewerkers?

We zien dat er binnen de universitaire wereld, en ook bij de UT, een bijzondere relatie is tussen leidinggevende en medewerker. De afhankelijkheid van een universitair medewerker of promovendus van de leidinggevende is groot. Er lijkt sprake te zijn van:

- Tegengestelde belangen in de rol van LG; de zorg voor de MDW staat soms om gespannen voet met de verantwoording voor de kwaliteit en kwantiteit van het onderzoek en onderwijs.
- De MDW is vaak niet alleen afhankelijk van een LG maar ook van die specifieke LG. De specialisatie in het vakgebied bindt de MDW. Dit geeft verstarring in de hiërarchische verhoudingen die vanuit het oogpunt van 'zelfregie op eigen gezondheid en inzetbaarheid' een behoorlijk risico vormen. Om preventief te kunnen optreden zijn er vaak –tijdelijke- aanpassingen nodig in inzetbaarheid of aanwezigheid en dat zullen veel MDW toch met hun LG moeten afspreken.
- De MDW, maar vaak ook de LG, zou gebaat zijn bij een sparringpartner met betrekking tot het inzetbaarheidsdomein waar ambitie, liefde voor het vak, hiërarchie en afhankelijkheid met elkaar interveniëren. Soms neemt HR deze rol in, maar niet in alle gevallen. Onze professionals kunnen hier zeker een rol in spelen.
- We merken in onze contacten dat de verhouding met de HR medewerkers niet altijd goed is. HR wordt weleens ervaren als een 'verlengstuk' van de organisatie, en daarmee niet als vertrouwd persoon om eens vrijblijvend mee te sparren. Hoewel dit in meer organisaties een bekend verschijnsel is, is de toegang tot een als neutraal ervaren HR-adviseur vaak van meerwaarde.
- Bij de diensten is soms sprake van verminderd verandervermogen of verminderde flexibiliteit of leervermogen. Hierdoor is het soms lastig om de snelle ontwikkelingen bij te houden. Er ontstaat dan spanning tussen wat iemand kan leveren en zou moeten kunnen leveren, die nog onvoldoende adequaat besproken wordt. Hierdoor is er voor MDW een risico op een onrealistisch beeld van hun eigen huidige en/of toekomstige toegevoegde waarde en een zelfbeeld dat niet meer klopt met de ervaringen van de organisatie. Deze scheefgroei in perceptie kan een oorzaak voor demotivatie, conflicten en verzuim zijn.



## 2.4 Bevindingen op gebied van ongewenst gedrag

We zien, conform een landelijke trend, een toename van de personen die zich melden met een verzuim als gevolg van een belast verleden rond intimidatie en/of uitsluitingssituaties. De grotere openheid over dit soort kwesties (Me-too, aandacht voor pesten) zorgt ervoor dat een aantal personen in een verlaat verwerkings- en/of bewustwordingsproces komt dat aandacht en tijd vraagt.

We zien kenmerken van een cultuur waarin het niet voor alle actoren veilig en open is om alles bespreekbaar te maken. We merken dat de verschillen in belangen groot kunnen zijn. Medewerkers en met name promovendi ervaren drempels om in gesprek te gaan met hun leidinggevende en vooral om hulp te vragen. Ze zijn bang om negatief op te vallen of te boek komen te staan als een persoon met issues. De menselijke maat valt nog wel eens weg tegen de maat van presteren en excelleren. We hebben hier geen kwantitatieve gegevens over, alleen anonieme en kwalitatieve indrukken uit de spreekuurcontacten, die we ook delen in onze reguliere overleggen met HR.

We zien ook hier grote verschillen tussen de faculteiten in het bieden van steun en ruimte aan promovendi. Daarbij gaat het vooral om de tijd en steun die hen geboden wordt om te herstellen.

De informatie over ongewenst gedrag komt grotendeels uit de arbeidsomstandighedensprekuren.

**Compliment  
people.**

**Magnify their  
strengths,**

**not their  
weaknesses.**

16-4-2019

Universiteit Twente



## 2.5 Vooruitzicht.

Qua focus in onze samenwerking voor het komende jaar hebben we twee prioriteiten.

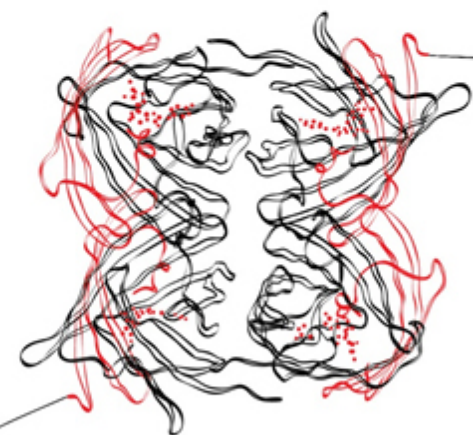
Het eerste is de preventieve aanpak van het psychisch verzuim. De belangrijkste doelgroepen zijn de personen tot 45 jaar, en dan met name de vrouwen. De vrouwen tot 34 jaar zijn, bij uitval door psychisch verzuim, het langst afwezig. We geven u ter overweging de volgende oplossingsstrategieën mee:

- Ook de vrouwen zijn geen homogene groep. Per doelgroep (promovenda, verschillen in nationaliteit) bestaat de mogelijkheid om supportgroepen te starten waarin de onderlinge verbondenheid, aanmoediging en steun wordt gefaciliteerd en versterkt. We vertellen u er graag meer over.
- Bespreekbaar maken van spanningsklachten in teams. We kunnen u daarbij begeleiden door het bieden van teamworkshops rond de thema's mentale veerkracht waardoor op een positieve manier de sociale steunbronnen binnen een team geactiveerd en versterkt worden.
- Bieden van ondersteuning voor promovendi en het laagdrempelig en acceptabel beschikbaar hebben van hulp. Denk aan sociale ondersteuning of het bieden van hulp bij de persoonlijke ontwikkeling.
- Leidinggevenden leren vroege signalen van overbelasting te herkennen en adequaat te reageren. Arbo Unie biedt op maatgemaakte workshops waarin LG samen leren hoe ze hun MDW goed kunnen ondersteunen. We kunnen u daarover meer informatie verschaffen buiten dit jaarverslag om.
- Overweeg om de taken met betrekking tot de begeleiding van persoonlijke ontwikkeling en samenwerking te beleggen bij een andere persoon als de leidinggevende en daarmee af te stappen van het integraal management door hoogleraren. Het leidinggeven aan hoogwaardige professionals waarvan een grote ontwikkeling wordt verwacht is niet iets wat iedereen zomaar kan, laat staan als deeltaak.

De tweede prioriteit is dat we het centrale beleid ook als arbodienst meer willen meenemen naar de periferie en een nadrukkelijker rol gaan pakken in het vertalen van de strategische doelstellingen naar de faculteiten. We stellen voor om regulier overleg te voeren met de HR managers van de faculteiten en diensten, samen met de centrale HR vertegenwoordiging. We kunnen dan per faculteit de prioriteiten bepalen, en onze ondersteuning



**An analysis of sickness absence among University  
of Twente employees (2014-2018)**



**UNIVERSITY OF TWENTE.**



Reference:...../HR

Date: 26-04-2019

Authors: Nicole Torka  
Rens Brinkman

# Table of Contents

MANAGEMENT SUMMARY.....	2
1. INTRODUCTION .....	4
2. LITERATURE OVERVIEW .....	6
2.1 Organizational unit.....	6
2.2 Gender.....	6
2.3 Type of contract.....	7
2.4 Origin.....	8
2.5 Age.....	8
2.6 Tenure .....	8
2.7 Function.....	9
3. HR DATA ON SICKNESS ABSENCE AND DURATION .....	10
3.1 Sickness absence rates and duration across organizational units.....	10
3.2 Sickness absence rates across gender, contract type and origin.....	12
3.3 Sickness absence rates across age categories.....	14
3.4 Sickness absence rates across tenure categories.....	16
3.5 Sickness absence rates across functions.....	17
4. CONCLUSIONS .....	19
LITERATURE .....	21

## List Of Tables

Table 1 Sickness absence rates across organizational units.....	10
Table 2 Sickness absence duration period 2014-2016.....	11
Table 3 Sickness absence duration period 2017-2018.....	12
Table 4 Sickness absence rates across gender, contract type and origin (UT totals).....	12
Table 5 Sickness absence rates across age categories.....	14
Table 6 Sickness absence rates off all staff (PhD excluded) across tenure categories.....	16
Table 7 Sickness absence rates PhD candidates across tenure categories .....	16
Table 8 Sickness absence rates across functions (UT totals).....	17

## List of Figures

Figure 1 Sickness absence rates & units .....	10
Figure 2 Development of sickness absence rates for gender, origin and contract type .....	13

## Management summary

The sickness absence rate of Dutch universities and in particular the UT's is still significantly lower than in other Dutch sectors. However, sickness absence is costly and employers depend on as well as have agency obligations towards their valuable and scarce human assets. A deeper look into the sickness absence data of the UT's HR service department provided an increased understanding and a more complete and accurate picture about the phenomenon than solely relying on Arbo Unie data.

- HR data shows that Arbo Unie's recommendation to focus on females (see annual report paragraph 2.5) can only be partly supported. Female sickness absence rates differ across functions and currently female assistant and full professors show not significant, but lower rates than their male counterparts. Moreover, although females in support staff functions, female Postdocs/researchers, female teachers and female PhD candidates show higher sickness absence rates than their male colleagues, we should not forget the relatively high and increasing sickness absence rates of male support staff (in 2018: 4,82%) and male teachers (in 2018: 4,97%). Finally, also the Arbo Unie annual report delivers an argument for gender inclusion, particularly in the context of sickness absence related to psychological problems: it seems that male UT employees show more sickness absence related to this cause than benchmark males (see annual report 1.5).
- Referring to table 5, also Arbo Unie's advice to focus in particular on employees <45 should be a subject of critical discussion: the (development of) sickness absence rates of employees 46 years and older are concerning and this is especially true for age group >60: compared to 2015 (sickness absence rate: 3,70%), in 2018 the rate of this group (6,04%) increased with 63%. Currently, employees have to work longer for and are older when entering retirement than in the past. This begs for more age-aware HRM policies and practices or sophisticated HRM for an ageing UT workforce. Moreover, also the state of affairs of career and life-stage aware HRM should be an object of investigation since these issues can influence the health of employees. Career- and life-stage issues are likely to vary across age groups (see also paragraph 2.5 and Arbo Unie's annual report paragraph 1.4).
- Research indicates that work circumstances are a better predictor of work-related sickness absence than psychological or demographic correlates (e.g. Farrell & Stamm, 1988). This means that employers and in particular the UT should invest into work circumstances that can prevent work-related sickness absence. The Arbo Unie report also points towards the quality of work and the supervisor as ingredients for employee well-being (see the annual report paragraph 1.4, 1.5 and 2.3). The well-being research 2019 (de Leede et al., 2019) is more specific on what should be done and avoided for UT employees. In general, the UT should invest in job crafting, HRM, team cohesion, autonomy, self-efficacy and high-quality leader-member relationships and reduce role overload, bureaucracy, administration and management tasks.
- However, one has to take into account that bottlenecks are likely to differ across functions. For example, the well-being research 2019 shows that full professors experience more administrative burden than support staff. Therefore, we have to conclude that for drawing accurate conclusions and deciding on whom and how to focus on, Arbo Unie's limited (access to) data provides too narrow insight. After all, the UT's OHS service can only collect data of ill employees who are obliged to consult them (62%) and the service does not register important personal characteristics beyond gender and age.
- This means that age and gender interventions as suggested by the Arbo Unie, demand refined 'à la carte approaches' that incorporate evidence-based considerations related to differences in functions, work circumstances, emancipatory issues, career and life stages (see also paragraphs 2.1 to 2.7).

- The UT's employee well-being research provides insight into work circumstances related to gender, age, function, tenure, type of contract and origin. Moreover, additional analysis can uncover possible connections between these personal characteristics and the different aspects of HRM. In June 2019, this additional analysis will be available.
- HR data shows that in general UT's Dutch employees report illness more than their foreign colleagues. Does this mean that we are allowed to conclude that Dutch UT employees are less healthy than their foreign colleagues? Not at all, and the same answer has to be given upon claims that some employee groups are more healthy or ill than others. For example, while full professors show a (very) low sickness absence rate, the well-being research reports that across all function groups they perceive the most strain. 'Survival of the fittest', presenteeism (i.e. working despite illness) and their relatively high autonomy might explain this outcome. We can only conclude that full professors and other groups with more favorable sickness absence rates like male PhD candidates, male Postdocs/researchers and non-Dutch employees call in sick less than other (sub-)groups.
- Finally, a rather controversial issue deserves attention. Do high and maybe even increasing sickness absence rates actually show an accurate picture of employee health? Several scholars provide food for thought that points towards a connection between sickness absence, management control and employee resistance. "Workers most subject to managerial control were most likely to make absence 'a legitimate means of escape' from the 'routine frustrations of going to work'" (Edwards & Scallion, 1984, p. 110). Related to Edwards and Scallion's finding, Behrend (1957) assumes that management attempts to increase working effort would be likely to lead to higher levels of absence or withdrawal because of perceived breaches of the effort bargain.
- Taking these conclusions seriously, one might argue that the increasing sickness absence across Dutch universities and in particular the UT tells something about the healthiness of governmental policies, sectorial and management demands. This begs for a critical perspective on sickness absence as a possible attempt to escape from such controls and regain power over one's life. Therefore, future employee research among Dutch universities and within the UT should also dig into this issue.

## 1. Introduction

Much has been written about work pressure at Dutch universities. On a scale from 1 to 100, Dutch scholars score 82,2 (DUB, 2018). Employer association VSNU, WOinActie and other interest groups point to the following structural or sector-specific culprits for work pressure: an increase in student numbers, a lack and overdue of government investments, publication pressure and fierce competition on research funding. Recent research across Dutch universities, but with a limited number of respondents, shows that not only scientific staff, but also support staff seems to suffer from work pressure: 65 percent of all scientists report physical and/or psychological complaints related to high work pressure compared to 59 percent of support staff (FNV/VAWO, 2019). This might contribute to the increase in total sickness absence rate<sup>1</sup> across Dutch universities:

- From 2,95% in 2015 to 3,18% in 2017, a total increase of 8% (VSNU, 2018; data for 2018 are not available yet).
- Unfortunately, the UT is following and even negatively outperforming this sectorial trend: compared to 2015 (2,82%), in 2017 (3,24%) the total absenteeism rate increased with 15%. In 2018 the UT's sickness absence percentage was 3,44%; currently, the UT's absenteeism rate is 3,37% (HR service department data, 31 March 2019).

Despite the fact several studies show a positive and direct relationship between work pressure and sickness absence (e.g. Davey et al., 2009; Neubauer, 1992), research uncovers that one should be careful with inferences about causality: the work pressure-absence connection may be mediated or moderated by other factors such as physical illness, participation in decision-making, social support, job satisfaction, flexible time and work location arrangements (i.e. home work), job clarity and management style (e.g. Darr & Johns, 2008; Elshout et al., 2013; Michie & Williams, 2003). In other words, next to issues on the sector-level, also factors within universities might negatively contribute to work pressure and related negative outcomes. The results of the well-being research 2019 (de Leede et al., 2019) show that UT employees are positive about a number of related constructs: At average, they perceive high autonomy, job clarity and team cohesion. Moreover, independent of the UT research, we know that scholars still strongly identify with their profession (e.g. Box & Cotgrove, 1966; Thunnissen & Fruytier, 2014) and professional identity is a self-concept that has a negative association with sickness absence (Baruch & Cohen, 2007). We have no reasons assuming that UT employees differ significantly from employees of other Dutch universities on these work environment features that seem to influence sickness absence. Therefore, we suggest that this bundle of favorable work conditions might (co-)explains why, despite high work pressure, sickness absence at universities is still significantly lower than in many other Dutch sectors like energy (4,9%), transport (5,0%), industry (5,4%) and cleaning (5,9%) (CBS, 2019).

Despite a sickness absence rate other sectors would applaud to, universities should achieve profound knowledge about this phenomenon. After all, sickness absence is costly and employers depend on as well as have agency obligations towards their valuable and scarce human assets. Thus, employers are accountable for employee health. For deciding on and optimizing approaches towards organizational questions, digging into issues is a prerequisite. However, employers' opportunities for getting a deeper insight into sickness absence are restricted: by law, they are not allowed to investigate and register the causes of their employees' sickness absence. Occupational health and safety (OHS) services can provide some information on a level that exceeds the individual. The annual report of

---

<sup>1</sup> Total sickness absence rate is calculated as:  $\Sigma\left(\frac{\Sigma(\text{Sicknessdays} \times \text{Sickness}\% \times \text{Fte})}{\Sigma(\text{Calendar days} \times \text{Fte})}\right)$

the UT's OHS service Arbo Unie shows that for 62 percent of all employees who call in sick the cause is known. The 38 percent with unknown diagnosis are mainly those on short-term sickness absence who are not obliged to consult a medical officer (Arbo Unie, 2019). Based on what Arbo Unie knows, their annual report concludes that employees in the age group until 45 years of age and females require special attention and interventions, because sickness absence due to psychological complaints in general and related to the work situation is in these groups higher than in other groups. However, Arbo Unie does only register gender and age, but no other characteristics of those who consult a medical officer like their function, origin and type of labour contract. Taking a critical position, in general it is dubious to assume that broad groups such as  $\leq 45$  years of age and females are homogenous groups. Moreover, and applicable to all claims about between group differences, the dangers of stereotyping and discrimination may arise. Hence, one should be aware of potential differences within broad groups and, if possible, inquire the possible presence of sub-groups by studying additional characteristics. After all, for example, it might be that age  $\leq 45$  PhD candidates contribute stronger to the sickness absence rate than others aged  $\leq 45$ . However, one should take in mind that even within small sub-groups, people can strongly differ from each other.

Employers not only are restricted in investigating and registering sickness absence, but also are OHS services. While the former are not allowed to ask employees about the cause of sickness absence, the latter have limited access to HR data and in particular, data that can provide additional knowledge about overall sickness absence (including short-term absence) related to several personal characteristics such as type of contract, nationality and function. Such data can provide information about possible sub-groups and therefore support adequate decision-making on 'one fits all' or 'a la carte' policies and practices: for example, is it appropriate to offer one and the same preventive approach for all  $\leq 45$  years or need scholars in the same age group other interventions? This is an important reason why we take a deeper look into HR data and try to match the latter to Arbo Unie data. From a methodological point of view, we can assume that matching or triangulating data from different sources yields the promise of a more complete and accurate picture: enhancing validity and reducing systematic errors contribute to the credibility of results (Denzin, 1970). Lumping together the aforementioned, a deeper look into the sickness absence data of the HR service department is important for several reasons:

- 1) increasing insight into (developments or trends of) overall sickness absence including short-term sick leave;
- 2) identifying potential sub-groups at risk for sickness absence;
- 3) presenting HR data alongside Arbo Unie data provides the opportunity for a more accurate sickness absence picture; and
- 4) a more complete sickness absence overview improves the quality of decision-making on policies and practices.

Before we present sickness absence data of the HR service department, we invite the reader to a short journey into general and UT-specific evidence-based knowledge. We finish this document with conclusions about the UT's sickness absence 'state of the art' composed from triangulating HR data and Arbo Unie data and enriched with what we know from the 2019 well-being research (de Leede et al., 2019). After all, the well-being research reveals work environment factors that might (co-)explain sickness absence and those factors are not covered by HR data nor Arbo Unie data.

## **2. Literature overview**

As mentioned before, the data of the HR service department and Arbo Unie lack information on work circumstances or psychosocial work factors. Employers can influence these factors by policies and practices and research indicates that work circumstances are a better predictor of sickness absence than psychological or demographic correlates (e.g. Farrell & Stamm, 1988). There is a growing body of evidence that the following psychosocial work factors are associated with greater risks of developing mental health and stress-related problems as well as sickness absence: high job demands, low job control, high effort–reward imbalance, low justice, role stress, aggression, low social support and poor leadership (e.g. Bakker et al., 2003; Borritz et al., 2010; Duijts et al., 2007; Harvey et al., 2017; Nielsen et al., 2016; Nieuwenhuijsen et al., 2010; Rugulies et al., 2009, White et al., 2013; Ybema & van den Bos, 2010). The UT’s well-being research 2019 (de Leede et al., 2019) collected information about some psychosocial work factors that matter for health: team cohesion, leader-member exchange (LMX), job clarity, aggression, job demands and autonomy. At average, UT employees perceive relatively high team cohesion, autonomy and job clarity, but job demands are high, the quality of the relationship with the supervisor (LMX) can be improved and some employees were victims or witnesses of aggression at work.

Despite the fact work circumstances seem to predict sickness absence better, for the sake of getting a deeper insight into sub-groups at potential risk, it is valuable to dig into demographics and other data. HR data include information on the organizational unit, gender, type of contract, origin, age, tenure and function and it is possible to relate these characteristics to sickness absence. What does research show about the relationships between these factors and sickness absence?

### **2.1 Organizational unit**

The sickness absence rates across Dutch universities show differences between scientists and support staff (VSNU, 2018): over the years, support staff reports substantially higher sickness absence than scientific staff. For example, at Dutch universities the sickness absence rate among support staff was in 2017 4,98%, among scientific staff 1,94%. This means the sickness absence rate of support staff is 157% higher than the rate of scientific staff. The difference in sickness absence between support and scientific staff has been explained with an insufficient registration of sickness absence among scientific staff and them having more freedom related to working times and location (Univers, 2013). In addition, differences in autonomy have been mentioned as an explanation for the sickness absence rate differences. However, the results of the well-being research 2019 do not fully support this idea: the employees of some service departments (AZ=3,98; M&C=4,22; SP=3,97) perceive more autonomy than employees of the BMS faculty (3.97) and ITC faculty (3,89). University service departments employ support staff only and therefore it is valuable to compare their sickness absence rates with those of faculties.

### **2.2 Gender**

A large body of research has indicated that sickness absence is higher among females than among males and studies suggest that this difference holds even when both men and women are in the same occupation (e.g. Bekker et al., 2009; Farrell & Stamm, 1988; Fried et al., 2002). Moreover, not only the mean number of absence days recorded for males seems to be smaller than those recorded for females, but also the mean number of absence episodes. Altogether, males seem up to one-third fewer days absent than females (Casini et al., 2013). A pan-European study about this phenomenon shows that these differences can be observed across countries and the gender patterns are also



verified when examining the absence rate between male and female workers by age cohorts, where again women exhibit greater sickness absence than men, particularly when they are at the family-forming stage of 26-35 years old (evident in Czech Rep., Denmark, France, Hungary, Ireland, the Netherlands, Norway and Slovenia) (Livanos & Zagelidis, 2010). The age of females also seems to matter for common mental disorders like anxiety and depression in relation to sickness absence. Koopmans et al. (2010) found that the recurrence density (RD) was similar in men and in women, but in women < 45 years the RD was higher than in women ≥ 45 years. In men no age differences were observed.

What are the wider reasons for these gender differences? The first explanation might be that females show more preventive health behavior than males: in general, women take better care of their health, are more aware of illness, consult health services more often than men do and are more likely than are men to take absence for combating illness (e.g. Fried et al., 2002). The second explanation refers to different work circumstances or psychosocial work factors for males and females such as inequity at work and the fact that women often experience high (emotional) work demands together with few possibilities to take decisions (Bekker et al., 2009). Very recent research commissioned by the Dutch Network of Women Professors found that inequity at work related to gender is also present among scientists at Dutch universities: male academics regard the amount of time for research more favorable than female academics, women report having less access to resources that allow them to carry out their work as academics (e.g. research funding, a travel budget, assistance and their own office) and female academics report feelings that they have less leeway to negotiate employment terms than men and they are also less satisfied with the results (van Veelen & Derks, 2019). This research also reports on a result that relates to a traditional distribution of gender roles and scholars have referred to such a distribution as an explanation for differences between males and females in sickness absence. Van Veelen and Derks found that when female scientists work part time, they are more likely to spend their non-working hours on unpaid care and household duties than males who work part time. In general, independent of the occupation, scholars state that a traditional distribution of gender roles reflected by more household responsibilities and the childbearing roles of women – also known as examples of home-work interference - have a detrimental effect on female health (e.g. Casini et al., 2013; Livanos & Zagelidis, 2010). González-Romá et al.'s (2005) findings support this assumption: the absence behaviour of women seems to be more sensitive to factors external to the workplace.

All the aforementioned provides ample arguments for investigating the relationship between gender and sickness absence. Nonetheless, it should be also clear that one has to be careful with inferences about causality: the gender-sickness absence connection seems to be mediated or moderated by other factors such as age, stages of life, health behaviors, work circumstances and the level of female and male emancipation from traditional gender roles.

### **2.3 Type of contract**

Job security is closely related to the type of contract. Compared to the past, currently Dutch universities offer less permanent contracts of employment and this seems to be especially true for people in research and/or teaching functions. The UT is not an exception on this fact. Sickness absence tends to be less frequent among temporary workers, possibly reflecting sickness presenteeism (Benavides et al., 2000, Virtanen et al., 2006): going to work despite illness. In the context of job security, this might refer to the more precarious employment situation of temporary workers.

## **2.4 Origin**

Research results about the influence of origin on sickness absence are very mixed. Comparative research shows differences between countries (e.g., Livanos en Zangelidis, 2010; Prins & De Graaf, 1986) and within countries. It has been suggested that labour supply characteristics, insurance provisions and labour market institutions may shed some light on between country differences. Low unemployment (Behrend, 1957) and generous sickness and unemployment insurance systems are associated with higher levels of sickness absence. Currently, in the Netherlands unemployment is low and compared to many other countries insurance systems are generous. Origin related to differences within countries refers to differences between native citizens and migrants. In the Netherlands, people with a migration background still have a shortfall on the labour market (Rijksoverheid, 2018). Much international research shows that the sickness absence of migrant workers is higher than of native citizens and this difference has been explained with less favorable job conditions of migrant workers.

However, studies challenge this conclusion by showing that natives and migrants do not differ in sickness absence and causes (e.g. Soler-González et al., 2008) and researchers remark that migrants are not a homogenous group (e.g. Hopkins et al., 2016). At the UT, the vast majority of non-Dutch employees work in the faculties, alongside Dutch natives in scientific functions. As far as we know, their job conditions do not differ. However, recent publications refer to an international dimension of students social and psychological problems (e.g., UToday, 2018; UToday, 2019) and this justifies also an exploration of employee origin related to sickness absence. A fair amount of non-EU UT students seems to suffer from high pressure, cultural adaption complications, loneliness and homesickness. It is not inconceivable that such stressors might also play a role among non-Dutch employees and could influence sickness absence. In the next paragraphs, the HR data on sickness absence related to different demographics and other factors will be presented.

## **2.5 Age**

Age usually shows a negative relationship with sickness absence frequency. Explanations for this relationship include older workers having a greater need for regularity, and having greater family and financial responsibilities (e.g., Lokke Nielsen, 2008; Thomson et al., 2000). However, research results about the age-sickness absence connection are mixed and show that one needs to look into more detail. For example, positive relationships were found between age and certified absence, whilst negative relationships were found between age and non-certified absence (e.g. Tenhiälä et al., 2014; Thomson et al., 2000). Alerted by the variety in research outcomes, Goecke and Kunze (2018) state that chronological age might is a less sufficient indicator than subjective age (i.e., how old an employee feels). Results also suggest that for another reason one should be careful about drawing causality conclusions since several psychosocial work factors seem to moderate the relationship between age and sickness absence: job type (white vs. blue collar), procedural justice and high-quality relationships with supervisors seem to matter (e.g. Tenhiälä et al., 2014). Consequently, when age shows relationships with sickness absence such work-related factors as well as factors related to the life stage (e.g., caring for children or parents; see also remarks related to gender) should be considered.

## **2.6 Tenure**

Findings indicate that age is a more important factor in sickness absence duration than tenure. However, the relationship between age and the duration of sickness absence varies based on tenure, suggesting that both age and tenure are important influences in the work-disability process (Besen et

al., 2016). The aforementioned pan-European research by Livanos and Zagelidis (2010) shows that sickness absence increases with job-tenure. For example, Tompa et al. (2008) found that individuals with a job tenure of 4–6 months were 64% less likely to have an absence than individuals with longer tenures. Researchers point to a possible relationship between seniority and job demands, age effects and job security as possible explanations (e.g. Barmby et al., 2002).

## **2.7 Function**

Research shows that scientific and support staff differ concerning sickness absence. However, studies also suggest digging into different scientific functions. A severe amount of PhD candidates at Dutch universities seem to suffer from mental health problems (Folia, 2017; ScienceGuide, 2017) and in general these problems are related to sickness absence (e.g. Bakker et al., 2003; Borritz et al., 2010; Duijts et al., 2007; Harvey et al., 2017). The Rathenau Instituut uncovered a positive relationship between scholars function level and overwork. The higher the function the more overwork: PhD candidates work at average 19% above their contractually agreed amount of working hours, assistant and associate professors 29% and full professors 45% (Koens et al., 2018). A reason for overwork is work pressure: insufficient time to fulfill tasks within the agreed amount of working hours. Although supposedly mediated or moderated by other factors, there is a connection between work pressure and sickness absence (e.g. Darr & Johns, 2008; Elshout et al., 2013; Michie & Williams, 2003). Results from the UT's employee well-being research 2019 show that more than 70% of the assistant professors, associate professors and full professors perceive their workload (much) too high, compared to 55% of the teachers, 48% of the managers and 36% of the support staff. Full professors are the most strained of all UT employees, but the average level of strain reported by them does not significantly differ from other scientific staff members. As mentioned before, one should be careful with inferences about a causal relationship between work pressure and sickness absence, but all the aforementioned shows that it is valuable to consider functions in relation to sickness absence.

### 3. HR data on sickness absence and duration<sup>2 3</sup>

Before we present the data, readers have to take into account the following. One has to take a deeper look into wider reasons for sickness absence, considering an array of explanations including structural issues (e.g. increase in student numbers, lacking finances), organizational changes (e.g. reorganizations, strategic and policy changes), non-work issues (e.g. accidents, illness unrelated to work) and work circumstances. Such additional and profound explorations are necessary for all we present in this document and especially for developments and differences that seem striking.

#### 3.1 Sickness absence rates and duration across organizational units

Unit/sickness absence rate	2014	2015	2016	2017	2018
BMS	2,27%	2,07%	3,05%	4,66%	4,48%
ET	1,49%	1,69%	1,51%	1,23%	1,60%
EEMCS/EWI	2,45%	2,49%	2,54%	2,62%	2,74%
TNW	2,59%	2,36%	2,33%	2,07%	2,12%
ITC	1,51%	2,10%	2,77%	2,18%	3,28%
AZ	3,27%	3,03%	5,17%	4,04%	1,59%
CES	4,10%	6,23%	6,01%	6,62%	4,88%
CFM	4,70%	4,15%	5,50%	5,38%	5,17%
FIN	6,04%	5,99%	5,19%	4,71%	3,19%
HR	7,01%	6,58%	7,49%	9,62%	6,91%
LISA	3,74%	4,78%	5,64%	4,80%	7,49%
M&C	5,26%	4,96%	7,50%	4,21%	5,94%
SP	3,22%	3,29%	1,74%	2,27%	7,48%

Table 1 Sickness absence rates across organizational units

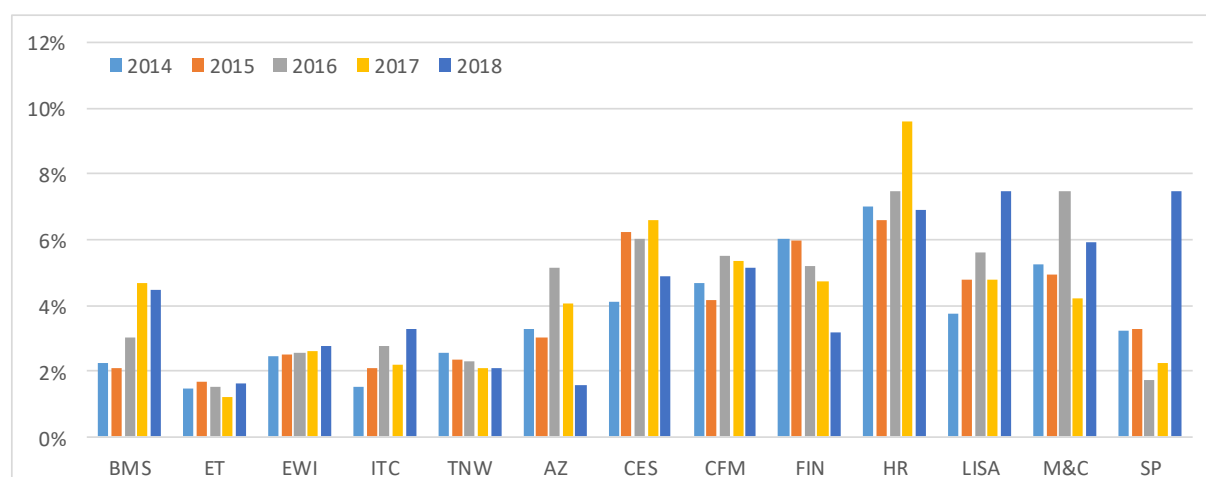


Figure 1 Sickness absence rates & units

- Since 2016 the BMS faculty has the highest sickness absence rate of all faculties and since then even negatively outperforms some of the service departments (in 2016: SP; in 2017: AZ, M&C and SP; in 2018: AZ and FIN). Compared to 2017, in 2018 the BMS absence rate decreased slightly, but is still relatively high.

<sup>2</sup> In all data, pregnancy was excluded

<sup>3</sup> 402 out of 1029 PhD candidates (39%; 21 February 2019; HR data) have no UT contract of employment. The HR service department has no sickness absence data for this group.

- ITC shows a steady increase in absence rate since 2014. In 2018 the absence rate was 3,28%, in 2014 1,51%: an increase of 117%, but still the sickness absence rate is lower than compared to BMS and, besides AZ and FIN, service departments.
- At average and as expected, service departments still show higher absence rates than faculties. In 2018 several departments show positive developments in sickness absence rates compared to 2016 or 2017 (e.g., AZ, CES, FIN and HR) while others absence rates are increasing since 2017 (SP and LISA). Note that due to the relatively low number of employees (<50), Arbo Unie excluded SP from their annual report.

Referring to work circumstances, the well-being research uncovers that

- Compared to the other faculties, BMS and ITC score lowest on leader-member exchange, autonomy, organizational commitment, general satisfaction with the UT and work engagement. Across faculties, BMS reports the lowest job clarity, highest strain and work load: 54% of the employees perceive the workload (much) too high.
- Referring to the service departments, role clarity is for LISA and SP employees below UT average and SP reports the highest workload of all organizational units: 65% of the SP employees perceive the workload (much) too high. Note that SP has a relatively low number of employees.

Not only sickness rates, but also the duration of sickness provides an insight into organizational health. Table 2 and 3 present the developments between 2014 and 2018 in average number of sickness days, the frequency of sick reports per employee (meldingsfrequentie = MF) and the distribution of short- (<=7 days), middle- (7-42 days) and long-term (>42 days) sickness absence in percentages.

**Note that the Arbo Unie report mentions that a frequency of sick reports per employee MF >1 needs further investigation.**

Unit/ absence duration	2014	2015	2016
	$\mu$ * MF** / short / middle / long	$\mu$ * / MF** / short / middle / long	$\mu$ * / MF** / short / middle / long
BMS	8 / 0,87 / 81% / 10% / 8%	8 / 0,85 / 83% / 10% / 8%	10 / 0,92 / 82% / 10% / 8%
ET	7 / 0,70 / 86% / 9% / 5%	8 / 0,87 / 83% / 10% / 7%	7 / 0,71 / 83% / 11% / 6%
EEMCS/EWI	10 / 0,78 / 82% / 12% / 6%	9 / 0,87 / 83% / 10% / 7%	7 / 0,71 / 83% / 11% / 6%
TNW	12 / 0,69 / 84% / 6% / 10%	10 / 0,80 / 85% / 8% / 7%	9 / 0,83 / 85% / 9% / 7%
ITC	4 / 1,16 / 88% / 9% / 3%	6 / 1,15 / 85% / 11% / 4%	8 / 1,22 / 84% / 10% / 6%
AZ	8 / 1,14 / 88% / 6% / 6%	9 / 0,99 / 76% / 14% / 8%	13 / 1,08 / 73% / 15% / 12%
CES	10 / 1,27 / 79% / 8% / 13%	14 / 1,34 / 80% / 6% / 14%	14 / 1,35 / 77% / 9% / 14%
CFM	17 / 0,87 / 60% / 22% / 18%	12 / 1,15 / 69% / 20% / 11%	15 / 1,17 / 70% / 21% / 9%
FIN	17 / 1,18 / 84% / 3% / 13%	15 / 1,29 / 82% / 7% / 11%	22 / 0,77 / 68% / 13% / 18%
HR	17 / 1,23 / 76% / 10% / 13%	17 / 1,12 / 73% / 7% / 20%	17 / 1,35 / 79% / 9% / 12%
LISA	8 / 1,59 / 83% / 11% / 5%	9 / 1,75 / 82% / 12% / 6%	11 / 1,63 / 81% / 11% / 8%
M&C	16 / 1,04 / 83% / 6% / 12%	13 / 1,27 / 81% / 6% / 13%	21 / 1,18 / 70% / 11% / 19%
SP	10 / 1,09 / 82% / 13% / 5%	9 / 1,23 / 70% / 23% / 7%	4 / 1,28 / 90% / 6% / 4%

\* $\mu$  = average sickness duration in days; \*\*MF (meldingsfrequentie) = the frequency of sick reports per employee

Table 2 Sickness absence duration period 2014-2016

Unit/sickness absence duration	2017 $\mu$ * / MF** / short / middle / long	2018 $\mu$ * / MF** / short / middle / long
BMS	17 / 0,86 / 81% / 8% / 12%	15 / 0,89 / 78% / 9% / 13%
ET	6 / 0,67 / 86% / 8% / 4%	7 / 0,76 / 86% / 10% / 4%
EEMCS/EWI	10 / 0,85 / 82% / 10% / 8%	10 / 0,94 / 86% / 8% / 6%
TNW	9 / 0,75 / 87% / 8% / 5%	8 / 0,84 / 83% / 12% / 5%
ITC	7 / 1,01 / 84% / 10% / 6%	11 / 0,98 / 85% / 11% / 4%
AZ	11 / 1,00 / 78% / 9% / 14%	5 / 0,92 / 85% / 11% / 4%
CES	14 / 1,50 / 81% / 6% / 13%	9 / 1,60 / 80% / 12% / 8%
CFM	14 / 1,22 / 69% / 22% / 9%	15 / 1,00 / 66% / 19% / 15%
FIN	15 / 1,00 / 73% / 6% / 21%	8 / 1,28 / 76% / 10% / 14%
HR	29 / 1,00 / 67% / 9% / 24%	18 / 1,12 / 66% / 15% / 18%
LISA	10 / 1,58 / 84% / 10% / 6%	15 / 1,67 / 78% / 12% / 10%
M&C	13 / 1,07 / 78% / 7% / 15%	14 / 1,36 / 75% / 9% / 16%
SP	7 / 0,97 / 90% / 5% / 5%	20 / 1,16 / 77% / 5% / 8%

\* $\mu$  = average sickness duration in days

Table 3 Sickness absence duration period 2017-2018

- BMS managed to continue a MF below 1,0 over the years, but the average number of sickness days increased (2018 compared with 2014: an increase of 87,5%) as well as long-term sickness absence since 2016.
- Also EWI shows an increase in the average number of sickness days since 2016 and in 2018 the MF is close to 1,0 (0,94).
- Between 2014 and 2016, ITC was the only faculty with a MF above 1,0. Since 2017 the MF is decreasing, but is still very close to 1,0 (0,98) and the average number of sickness days increased (2018 compared with 2014: an increase of 175%). The aforementioned means that sickness absence is increasing due to an increase in sickness duration.
- In general, the service departments show higher MF's and a higher number of average sickness days than the faculties. The MF of CES and LISA increased and LISA's average number of sickness days as well (between 2014 and 2018 with 87,5%). HR seems to recover, but the average number of sickness days is still high as well as the share of long-term sickness duration. Also other service departments show in 2018 high and in some cases increased long-term-sickness duration: FIN, CFM and M&C. SP has the highest increase in average sickness days: compared to 2014, in 2018 an increase of 100%. Note that SP has a relatively low number of employees.

### 3.2 Sickness absence rates across gender, contract type and origin

Gender, contract, origin/sickness absence rate	2014	2015	2016	2017	2018
<b>Gender (Male/Female)</b>	1,82% / 3,73%	2,21% / 3,19%	2,39% / 3,89%	2,19% / 4,55%	2,64% / 4,31%
<b>Contract type (permanent/temporary)</b>	3,29% / 1,67%	3,54% / 1,53%	3,85% / 1,74%	3,93% / 1,80%	4,08% / 2,13%
<b>Origin (Dutch, EU, non-EU)</b>	2,91% / 1,14% / 2,07%	2,70% / 2,54% / 4,06%	3,16% / 2,82% / 4,55%	3,41% / 1,62% / 1,79%	3,31% / 2,41% / 1,76%

Table 4 Sickness absence rates across gender, contract type and origin (UT totals)

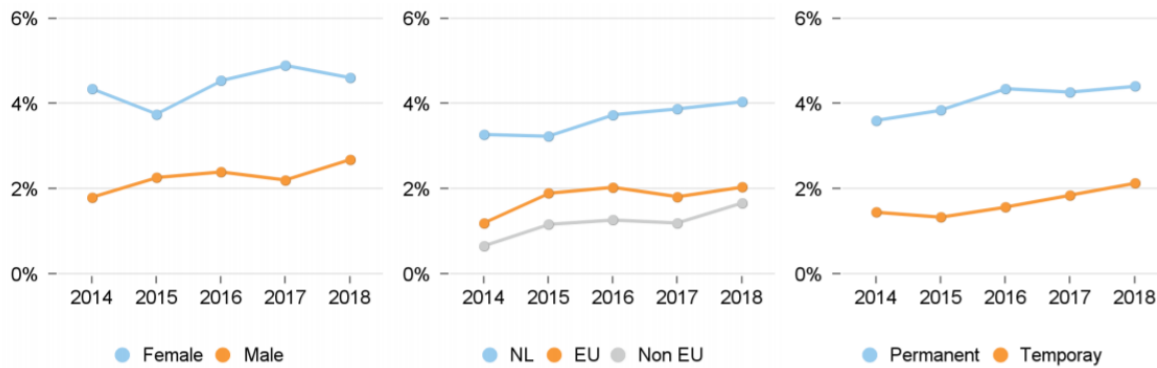


Figure 2 Development of sickness absence rates for gender, origin and contract type

- In line with broader literature, the female sickness absence rate is higher than the male absence rate. According to this general outcome, it seems plausible to support Arbo Unie’s advice to focus on females.
- As expected, employees with a temporary contract seem to report illness less than employees with a permanent contract (see also paragraph 2.3 and in particular ‘sickness presenteeism’). The data shows that this is true for scientific and support staff.
- In general, sickness absence related to origin shows that Dutch employees report illness more than employees from other EU countries and non-EU citizens.

A deeper look into the data reveals that

- Female support staff contributes strongest to the female sickness absence rates. In 2018, the sickness absence rate of female support staff was 5,32%, female PhD candidates was 4,23% and female scientific staff was 3,38%.
- In general, also female scientific staff (i.e. WP exclusive PhD candidates) shows an increase in sickness absence rate between 2016 (2,30%) and 2018 (3,38%): an increase of 47%.
- Since 2014 the sickness absence rate of female PhD candidates strongly increased: compared to 2014 (2,23%), an increase of 90% (sickness absence rate of female PhD candidates in 2018: 4,23%).
- Referring to origin, in 2018 PhD candidates from EU countries show a higher sickness rate (3,83%) than Dutch (1,69%) and non-EU (1,84%) PhD candidates.

Related to gender and origin, the UT well-being research shows some interesting results.

- In contrast to males, females seem to experience significantly less strain related to work, but also take less actions to increase their structural resources (i.e. employee-initiated actions for proactively acquiring personal resources needed to effectively execute one’s work, including knowledge and skills, and autonomy) and their perceived self-efficacy is lower than males. Self-efficacy describes employees’ beliefs about their knowledge, skills and abilities to perform their job. The more confident employees are about those work-related features, the higher the level of self-efficacy.
- In paragraph 2.2, we referred to the recent research on gender (in)equality of Dutch scholars. The results show that female academics report having less access to resources that allow them to carry out their work as academics than their male colleagues. Moreover, they report perceiving less leeway to negotiate employment terms than men do and they are less satisfied with the results. (van Veelen & Derks, 2019). Therefore, it might be that female UT scholars take less

actions to increase their structural resources, because they feel having limited chances of success for getting their efforts granted. This deserves further research.

- Stimulating females to take actions for increasing structural resources and enhance self-efficacy might support their well-being related to work.
- However, referring to research on the gender-sickness absence connection (see paragraph 2.2), other factors such as stages of life, health behaviours and the level of female and male emancipation from traditional gender roles might explain gender differences.
- The well-being research shows that employees from outside Europe are the most satisfied employees (significantly different with the other categories;  $p < .05$ ). Of all employees, those born outside Europe are the most engaged, however this result is not significant. Employees born in the Netherlands are the least strained of all employees at the UT.

### 3.3 Sickness absence rates across age categories

Age/sickness absence rate	2014	2015	2016	2017	2018
<=25	2,13%	1,17%	1,57%	1,45%	0,97%
26-30	1,32%	1,55%	1,74%	2,23%	3,08%
31-35	2,01%	3,21%	3,58%	2,81%	2,72%
36-40*	3,63%	2,94%	2,95%	3,89%	3,16%
41-45*	2,47%	2,78%	3,17%	3,53%	3,33%
46-50*	2,62%	2,53%	3,76%	3,79%	3,27%
51-55*	2,97%	3,84%	3,60%	3,04%	3,34%
56-60*	4,14%	3,41%	3,92%	3,67%	4,49%
>60*	3,70%	4,75%	4,29%	4,88%	6,04%
UT total	2,74%	2,82%	3,21%	3,24%	3,44%

\*PhD candidates were excluded, because of a very limited number of PhD candidates in this age group ( $N = <=23$ )

Table 5 Sickness absence rates across age categories

Red cells show the three age groups with the highest sickness absence rates in the relevant year. We colored those with the lowest sickness absence rates orange and not green for a good reason.

- Generally speaking, over the years the age categories <=25, 26-30 and 31-35 show lower sickness absence rates than older age categories. However, Arbo Unie reports that within these groups and the age group 35-44 psychological problems are the main cause (83,5%) of longer-term sickness absence. According to Arbo Unie, within the age group <45 years 27,5% of the psychological problems are work-related. Therefore, Arbo Unie advises to focus on the age group <45 years of age.
- While the age groups <=25, 31-35, 36-40 and 41-45 show decreases or fluctuations, the age group 26-30 shows a steady increase in sickness absence rate since 2014: compared to this year, the sickness absence rate increased with 133% in 2018.
- Although Arbo Unie reports that other health issues play a more important role among people >=45 years of age and the share of psychological problems related to work is lower (19,5%), also for 54% of the employees in this age group who consult the OHS service the major cause is psychological problems.
- Table 5 shows that the (development of) sickness absence rates of employees 46 years and older are concerning and this is especially true for the age group >60: compared to 2015 (sickness absence rate: 3,70%), in 2018 (6,04%) the rate of this group increased with 63%.
- Compared to 2014, the share of >60 of age employees has increased with 2% (2014: 8%, 2018: 10%). This might be explained by changing conditions for early retirement. In contrast to the past



the early retirement options for employees in this age group with ill health decreased and this might explain the increased sickness absence rate.

- In 2018, 20% of the UT employees is >56 and their share in sickness absence days is 29%. Although, the share of this age group in sickness days is higher than those of other groups, this is not very alarming. 37% of the UT employees are ≤35 years of age (share in sickness absence rate: 27%), 21% are between 36 years and 45 years of age (share in sickness absence rate: 18%) and 23% are between 45 and 55 years of age (share in sickness absence rate: 26%).<sup>4</sup>
- It is interesting to note that because of employee demand, in 2018 the UT sport center introduced new programs on and enlarged opportunities related to relaxation (e.g. mindfulness, yoga, Tai Chi) for the age 50+ community.

A deeper look into the data uncovers that

- With one exception, when relating age categories to gender, males in all age categories show lower sickness absence rates.
- Compared to scientific staff (sickness absence rate 2018: 2,15%) and PhD candidates (sickness absence rate 2018: 2,11%), support staff (sickness absence rate 2018: 4,87%) contributes most to the increase in sickness absence rate in the age category 20-30 years of age. The sickness absence rate among support staff in the age category 26-30 years increased as well as the average number of sickness days (from 4 days in 2014 to 10 days in 2018) and the MF (from 1,35 in 2014 to 1,60 in 2018).
- However, also female scientific staff and female PhD candidates show a substantial increase in sickness absence rates in the age category 26-30 since 2014: an increase of 66% (female scientific staff: 2014 2,04% and 2018 3,39%) respectively 97% (female PhD candidates: 2014 2,07% and 2018 4,07%). Female scientific staff shows an increase in average sickness days (2014: 7 days, 2018: 11 days) as well as do female PhD candidates (2014: 11 days, 2018: 14 days). Referring to the latter, their MF increased in the period 2014-2018 from 0,67 to 1,04.
- Female support staff shows the highest sickness absence rate in the age category 41-45 years of age (6,76%); female scientific staff shows the highest sickness absence rate in the age category 36-40 years of age.
- Among support staff, the age categories 46-50, 51-55, 56-60 and >60 show the highest average amount of sickness days (11/12/16/15), but their MF's are lower than those of younger age groups. The following support staff age categories show the highest share of long-term sickness absence (>42 days): >60 (13%), 56-60, 51-55 and 36-40 (11%).

The well-being research shows

- A non-significant positive relationship between age and strain related to work, but a significantly positive relationship between age and work engagement. Thus, work engagement seems to increase with age.
- However, age has significant negative relationships with work circumstances that seem to affect well-being like increasing structural resources, increasing social resources and role overload. Both resources are dimensions of job crafting: self-initiated job changes pro-actively realized by employees themselves in order to align the job better to their own needs and strengths (Dorenbosch et al., 2013; Tims et al., 2012).

---

<sup>4</sup> See Arbo Unie annual report, 1.4 Verdeling van het aantal verzuimdagen over de leeftijdscategorieën, and note that Arbo Unie uses different age categories than HR

- The results indicate that while older employees perceive more confidence about their knowledge, skills and abilities to perform their job (i.e. self-efficacy) than younger employees do, they are less active in optimizing their person-job fit.
- Why are older UT employees less active in doing so? Similar to what we have suggested for the female scholars and their, compared to males, less investments in increasing structural resources (see paragraph 3.2), it would be valuable to investigate if older employees are not willing to do so or are not doing so because they perceive less chances to get their actions granted than younger employees. The latter would point towards HRM practices less favorable for or perceived less favorable by older employees than younger employees.

### 3.4 Sickness absence rates across tenure categories

The following table shows the sickness absence rates of scientific staff and support staff across tenure categories. We excluded PhD candidates because of their deviating tenure. See table 6 for insight into the PhD candidates sickness absence rates related to tenure.

Tenure/sickness absence rate	2014	2015	2016	2017	2018
<2 years	1,19%	1,39%	1,27%	0,88%	2,02%
2-5 years	3,05%	3,05%	2,80%	3,23%	3,42%
>5-10 years	3,31%	3,61%	4,36%	4,48%	4,67%
>10-15 years	3,72%	3,78%	4,54%	4,44%	4,59%
>15 years	2,98%	3,32%	3,59%	3,75%	4,00%

Table 6 Sickness absence rates off all staff (PhD excluded) across tenure categories

- In 2017 and 2018, the sickness absence rates increase until tenure category <5-10 years and then drops. This might be explained by the ‘survival of the fittest syndrome’ or because those with less well-being left the organization (e.g. another employer, invalidity pension, retirement).
- The table shows also that the sickness absence rates across all tenure categories increased between 2014 and 2018.

Tenure/sickness absence rate	2014	2015	2016	2017	2018
<1 year	0,61%	0,73%	0,92%	0,75%	0,68%
1-2 years	2,67%	0,74%	2,66%	1,71%	1,75%
>2-3 years	2,63%	1,89%	1,15%	2,04%	1,55%
>3-4 years	0,81%	2,03%	2,70%	2,38%	2,32%
>4 years	0,87%	0,75%	2,05%	4,17%	4,94%

Table 7 Sickness absence rates PhD candidates across tenure categories

Table 7 shows that PhD candidates with the longest tenure and (>4 years) show an alarming increase in sickness absence rate since 2017.

- Compared to 2014, the sickness absence rate of this group increased with 468 percent in 2018.
- This urges for a more detailed study about the wider reasons.
- We suggest to take a look into the following factors:
  - In 2014, ProDoc was introduced (recently replaced by Hora Finita). It might be that the improved monitoring of PhD trajectories identifies bottlenecks more accurate than before the introduction of such systems and makes comparisons on PhD candidates performance possible. Consequently, PhD supervisors might become more alert as well as demanding.
  - A lack of finances to keep PhD candidates in employment beyond the official duration of the trajectory.

- Person-job fit.
- Too much involvement in teaching and administration.
- Supervisor support.
- Finishing project deliverables that are excluded from the thesis.
- Career and life stage issues as well as perceived job insecurity.

### 3.5 Sickness absence rates across functions

Function/ sickness absence rate	2014	2015	2016	2017	2018
Support staff	4,27%	4,43%	5,25%	4,81%	5,08%
Full professors	0,94%	1,91%	2,34%	1,00%	1,43%
Associate professor	1,91%	1,40%	0,75%	1,84%	2,50%
Assistant professor	2,50%	3,36%	1,77%	2,62%	1,82%
PostDoc/researcher	0,77%	0,98%	1,42%	1,79%	2,00%
PhD candidates <sup>5</sup>	1,60%	1,27%	1,97%	2,11%	2,14%
Teacher	2,44%	2,20%	2,25%	4,16%	5,57%

Table 8 Sickness absence rates across functions (UT totals)

- Besides for assistant and full professors, over the years sickness absence rates increased among the listed function groups.
- As expected, over the years the sickness absence rates of support staff are high, but since 2018 lower than the teachers sickness absence rate.
- The sickness absence rates of support staff increased less than among other function groups: compared to 2014 in 2018 their sickness absence rate shows an increase of +19%, those of Postdocs/researchers +160%, teachers +128%, PhD candidates +34% and associate professors +30%.

A deeper look into HR data provides insightful information and helps the reader to better understand why, despite increasing, but still low sickness absence rates, postdocs/researchers, PhD candidates and associate professors rates are colored in alarming orange <sup>6789</sup>

- Although their sickness rate is low, Dutch Postdocs/researchers (2018: 2,78%) report illness more than their colleagues from other EU countries (2018: 0,71%) and non-EU countries (2018: 1,83%).
- The sickness absence rate of female Postdocs/researchers is increasing: from 1,39% in 2014 to 4,00% in 2018 (+188%). Therefore, the low overall sickness absence rate of Postdocs/researchers can be explained by the low contribution of males.
- The MF of female Postdocs/researchers decreased from 2014 (0,95) to 2018 (0,64), but the number of average sickness days steadily increased from 5 to 19 days in the same period of time. Thus, less female Postdocs/researchers call in sick, but the sickness duration is longer.

<sup>5</sup> 402 out of 1029 PhD candidates (39%; 21 February 2019; HR data) have no UT contract of employment. The HR service department has no sickness absence data for this group.

<sup>6</sup> The fast majority of PostDocs/researchers has a temporary contract and age as well as tenure categories have too few employees per category to analyze on possible differences.

<sup>7</sup> The fast majority of teachers is Dutch and age as well as tenure categories have too few employees per category to analyze on possible differences.

<sup>8</sup> All PhD candidates have a temporary contract and age as well as tenure categories have too few employees per category to analyze on possible differences.

<sup>9</sup> The fast majority of associate professors is Dutch, has a permanent contract and age as well as tenure categories have too few employees per category to analyze on possible differences.

- Compared to 2014, the sickness absence rates of both, teachers with a temporary and those with a permanent contract strongly increased in 2018: for those with a temporary contract from 1,93% to 4,53% (135% increase) and those with a permanent contract from 2,73% to 6,19% (127% increase).
- Male and female teachers sickness absence rates show differences: in 2018 the absence rate for males is 4,97% and for females 6,32%, but note that also the male absence rate is high.
- In 2018, male teachers MF decreased, but compared to 2014 the average number of absence days increased from 5 to 21 days. Moreover, 14% of the sickness absence was long-term (>42 days). A comparable situation can be observed among female teachers: the average number of sickness days increased (2014: 10 days, 2018: 17 days) as well as the long-term share in sickness duration (15% in 2018).
- Compared to the broad categories scientific (WP) and support staff (OBP), male PhD candidates show the lowest sickness absence rates over the years: 0,97% in 2015, 1,26% in 2016 and in 2017 and 2018 1,17%. Therefore, the low overall sickness absence rate of PhD candidates can be explained by the low contribution of males (see for more information on PhD candidates paragraph 3.2).
- Female associate professors show a higher sickness absence rate (2018: 3,16%) than their male colleagues (2018: 2,37%), but the rate is still below the UT's total rate (2018: 3,44%).
- However, while the sickness absence rate of female associate professors fluctuated between 2014 and 2018 – with higher sickness absence rates in 2014, 2015 and 2017 (4,23%, 4,33% and 3,59%) than in 2018, the sickness absence rate of male associate professors increased with almost 1% between 2014 and 2018 (2014: 1,39%, 2018: 2,37%) as well as the average number of sickness days (2014: 9 days, 2018: 13 days).
- Although not significant, female assistant and full professors showed in 2018 lower sickness rates than their male colleagues: assistant professors male/female 1,83%/1,79%; full professors male/female 1,48%/1,22%.

The well-being research shows that

- Compared to all other functions we present in table 8, teachers have the lowest score on satisfaction with the UT (6,54) and report less work engagement (4,97). At the same time they report less workload than full, associate professors and assistant professors, but more than PhD candidates and Postdocs/researchers: 55% of the teachers perceive their workload (much) too high.
- Across all teaching and research functions, Postdocs/researchers experience the least work-related strain, only PhD candidates are more satisfied with the UT and their work engagement is higher than the teachers and PhD candidates, but lower than professors on the different levels.
- *It is interesting to note that the collective agreement of the Dutch universities (cao NU) explicitly mentions junior teachers and Postdocs in the context of improving career opportunities and job security.*

#### 4. Conclusions

The sickness absence rate of Dutch universities and in particular the UT's is still significantly lower than in other Dutch sectors. However, sickness absence is costly and employers depend on as well as have agency obligations towards their valuable and scarce human assets. A deeper look into the sickness absence data of the UT's HR service department provided an increased understanding and a more complete and accurate picture about the phenomenon than solely relying on Arbo Unie data.

- HR data shows that Arbo Unie's recommendation to focus on females (see annual report paragraph 2.5) can only be partly supported. Female sickness absence rates differ across functions and currently female assistant and full professors show not significant, but lower rates than their male counterparts. Moreover, although females in support staff functions, female Postdocs/researchers, female teachers and female PhD candidates show higher sickness absence rates than their male colleagues, we should not forget the relatively high and increasing sickness absence rates of male support staff (in 2018: 4,82%) and male teachers (in 2018: 4,97%). Finally, also the Arbo Unie annual report delivers an argument for gender inclusion, particularly in the context of sickness absence related to psychological problems: it seems that male UT employees show more sickness absence related to this cause than benchmark males (see annual report 1.5).
- Referring to table 5, also Arbo Unie's advice to focus in particular on employees <45 should be a subject of critical discussion: the (development of) sickness absence rates of employees 46 years and older are concerning and this is especially true for age group >60: compared to 2015 (sickness absence rate: 3,70%), in 2018 the rate of this group (6,04%) increased with 63%. Currently, employees have to work longer for and are older when entering retirement than in the past. This begs for more age-aware HRM policies and practices or sophisticated HRM for an ageing UT workforce. Moreover, also the state of affairs of career and life-stage aware HRM should be an object of investigation since these issues can influence the health of employees. Career- and life-stage issues are likely to vary across age groups (see also paragraph 2.5 and Arbo Unie's annual report paragraph 1.4).
- Research indicates that work circumstances are a better predictor of work-related sickness absence than psychological or demographic correlates (e.g. Farrell & Stamm, 1988). This means that employers and in particular the UT should invest into work circumstances that can prevent work-related sickness absence. The Arbo Unie report also points towards the quality of work and the supervisor as ingredients for employee well-being (see the annual report paragraph 1.4, 1.5 and 2.3). The well-being research 2019 (de Leede et al., 2019) is more specific on what should be done and avoided for UT employees. In general, the UT should invest in job crafting, HRM, team cohesion, autonomy, self-efficacy and high-quality leader-member relationships and reduce role overload, bureaucracy, administration and management tasks.
- However, one has to take into account that bottlenecks are likely to differ across functions. For example, the well-being research 2019 shows that full professors experience more administrative burden than support staff. Therefore, we have to conclude that for drawing accurate conclusions and deciding on whom and how to focus on, Arbo Unie's limited (access to) data provides too narrow insight. After all, the UT's OHS service can only collect data of ill employees who are obliged to consult them (62%) and the service does not register important personal characteristics beyond gender and age.
- This means that age and gender interventions as suggested by the Arbo Unie, demand refined 'à la carte approaches' that incorporate evidence-based considerations related to differences in

functions, work circumstances, emancipatory issues, career and life stages (see also paragraphs 2.1 to 2.7).

- The UT's employee well-being research provides insight into work circumstances related to gender, age, function, tenure, type of contract and origin. Moreover, additional analysis can uncover possible connections between these personal characteristics and the different aspects of HRM. In June 2019, this additional analysis will be available.
- HR data shows that in general UT's Dutch employees report illness more than their foreign colleagues. Does this mean that we are allowed to conclude that Dutch UT employees are less healthy than their foreign colleagues? Not at all, and the same answer has to be given upon claims that some employee groups are more healthy or ill than others. For example, while full professors show a (very) low sickness absence rate, the well-being research reports that across all function groups they perceive the most strain. 'Survival of the fittest', presenteeism (i.e. working despite illness) and their relatively high autonomy might explain this outcome. We can only conclude that full professors and other groups with more favorable sickness absence rates like male PhD candidates, male Postdocs/researchers and non-Dutch employees call in sick less than other (sub-)groups.
- Finally, a rather controversial issue deserves attention. Do high and maybe even increasing sickness absence rates actually show an accurate picture of employee health? Several scholars provide food for thought that points towards a connection between sickness absence, management control and employee resistance. "Workers most subject to managerial control were most likely to make absence 'a legitimate means of escape' from the 'routine frustrations of going to work'" (Edwards & Scallion, 1984, p. 110). Related to Edwards and Scallion's finding, Behrend (1957) assumes that management attempts to increase working effort would be likely to lead to higher levels of absence or withdrawal because of perceived breaches of the effort bargain.
- Taking these conclusions seriously, one might argue that the increasing sickness absence across Dutch universities and in particular the UT tells something about the healthiness of governmental policies, sectorial and management demands. This begs for a critical perspective on sickness absence as a possible attempt to escape from such controls and regain power over one's life. Therefore, future employee research among Dutch universities and within the UT should also dig into this issue.

## Literature

Arbo Unie (2019), Jaarverslag 2018, Universiteit Twente.

Bakker, A., Demerouti, E., de Boer, E. & Schaufeli, W. B. (2003), "Job demands and job resources as predictors of absence duration and frequency", *Journal of Vocational Behaviour*, Vol. 62 (2), pp. 341-356.

Baruch, Y. & Cohen, A. (2007), "The dynamics between organizational commitment and professional identity formation at work", in A. Brown, S. Kirpal & F. Rauner *Identities at work* (pp. 241-260), Dordrecht: Springer.

Behrend, H. (1957), "The Effort Bargain", *Industrial and Labour Relations Review*, Vol. 10 (4), pp. 503-515.

Bekker, M. H. J., Rutte, C. G. & van Rijswijk, K. (2009), "Sickness absence: A gender-focused review", *Psychology, Health & Medicine*, Vol. 14 (4), pp. 405-418.

Benavides, F. G., Benach, J., Diez-Roux, A. V. & Roman, C. (2000), "How do types of employment relate to health indicators? Findings from the Second European Survey on Working Conditions", *Journal of Epidemiology & Public Health*, Vol. 54 (7), pp. 494-501.

Besen, Young, A. E., Gaines, B. & Pransky, G. (2016), "Relationship Between Age, Tenure, and Disability Duration in Persons With Compensated Work-Related Conditions", *Journal of Occupational and Environmental Medicine*, Vol. 58 (2), pp. 140-147.

Borritz, M., Christensen, K. B., Bultmann, U., Rugulies, R., Lund, T. Andersen, I., Villadsen, E., Diderichsen, F. & Kristensen, T. S. (2010), "Impact of Burnout and Psychosocial Work Characteristics on Future Long-Term Sickness Absence. Prospective Results of the Danish PUMA Study Among Human Service Workers", *Journal of Occupational and Environmental Medicine*, Vol. 52 (10), pp. 964-970.

Box, S. & Cotgrove, S. (1966), "Scientific identity, occupational selection, and role strain", *British Journal of Sociology*, Vol. 17 (1), pp. 20-28.

CBS (2019), *Ziekteverzuimpercentage bedrijfstakken*,

[https://statline.cbs.nl/StatWeb/publication/?VW=T&DM=SLNL&PA=80072NED&D1=0&D2=0-6,11-14,18,20-25,27-29,34-35&D3=4,9,\(I-6\)-I&HD=120703-1034&HDR=T,G2&STB=G1](https://statline.cbs.nl/StatWeb/publication/?VW=T&DM=SLNL&PA=80072NED&D1=0&D2=0-6,11-14,18,20-25,27-29,34-35&D3=4,9,(I-6)-I&HD=120703-1034&HDR=T,G2&STB=G1)

Darr, W. & Johns, G. (2008), "Work strain, health, and absenteeism: A meta-analysis", *Journal of Occupational Health Psychology*, Vol. 13(4), pp. 93-318.

Davey, M. M., Cummings, G., Newburn-Cook, C. V. & Lo, E. A. (2009), "Predictors of nurse absenteeism in hospitals: a systematic review", *Journal of Nursing Management*, Vol. 17, pp. 312-330.

Denzin, N. K. (1970), *The Research Act in Sociology: A Theoretical Introduction to Sociological Methods*, London: Butterworths.

DUB (2018), "Gebrek aan waardering zorgt ook voor werkdruk in de wetenschap", *DUB*, 4 december 2018, <https://www.dub.uu.nl/nl/achtergrond/gebrek-aan-waardering-zorgt-ook-voor-werkdruk-de-wetenschap>.

Duijts, S. F. A., Kant, I., Swaen, G. M. H., van den Brandt, P. A. & Zeegers, M. P. A. (2007), "A meta-analysis of observational studies identifies predictors of sickness absence", *Journal of Clinical Epidemiology*, Vol. 60 (11), pp. 1105-1115.

De Leede, J., Meijerink, J. & Torka, N. (2019), *Work engagement and work pressure: still in balance? A well-being study among UT employees*, Enschede: University of Twente.

Edwards, P. K. & Scullion, H. (1984), "Absenteeism and the Control of Work", *Sociological Review*, Vol. 32 (3), pp. 547-572.

Elshout, R., Scherp, E. & van der Feltz-Cornelis, C. M. (2013), "Understanding the link between leadership style, employee satisfaction, and absenteeism: a mixed methods design study in a mental health care institution", *Neuropsychiatric Disease and Treatment*, Vol. 9, pp. 823-837.

Farrell, D. & Stamm, C. L. (1988), "Meta-Analysis of the Correlates of Employee Absence", *Human Relations*, Vol. 41 (3), pp. 211-227.

FNV/VAWO (2019), *Werkdruk Universiteiten*, <file:///C:/Users/Gebruiker/Downloads/57966a6b-cd4e-4532-a3cb-5f05fb0fd5a7.pdf>.

- Folia (2017), Neem mentale klachten van promovendi serieus, 26 oktober 2017; <https://www.folia.nl/opinie/115661/neem-mentale-klachten-van-promovendi-serieus>.
- Fried, Y., Melamed, S. & Ben-David, H. A. (2002), "The joint effects of noise, job complexity, and gender on employee sickness absence: an exploratory study across 21 organizations — the CORDIS study", *Journal of Occupational and Organizational Psychology*, Vol. 75, pp. 131-144.
- Goecke, T. F. E. & Kunze, F. (2018), "The contextual role of subjective age in the chronological age/absenteeism relationship in blue and white collar teams", *European Journal of Work and Organizational Psychology*, Vol. 27 (4), pp. 520-534.
- González-Romá, V., Väänänen, A., Ripoll, P., Caballer, A., Peiró, J. M. & Kivimäki, M. (2005), "Psychological climate, sickness absence and gender", *Psicothema*, Vol. 17 (1), pp. 169-174.
- Harvey, S. B., Modini, M., Joyce, S., Milligan-Saville, J. S., Tan, L., Mykletun, A., Bryant, R. A., Christensen, H. & Mitchell, P. B. (2017), "Can work make you mentally ill? A systematic meta-review of work-related risk factors for common mental health problems", *Occupational & Environmental Medicine*, Vol. 74, pp. 301-310.
- Hopkins, B., Dawson, C. & Velizitos, M. (2016), "Absence management of migrant agency workers in the food manufacturing sector", *International Journal of Human Resource Management*, Vol. 27 (10), pp. 1082-1100.
- Kivimäki, M. (2003), "Sickness Absence as a Global Measure of Health: Evidence from Morbidity in the Whitehall II Prospective Cohort Study", *British Medical Journal*, Vol. 327, pp. 364.
- Koens, L. R. Hofman & J. de Jonge (2018), *Drijfveren van onderzoekers. Goed onderzoek staat nog steeds voorop*, Den Haag: Rathenau Instituut.
- Koopmans, P. C., Roelen, C. A. M., Bültmann, U., Hoedeman, R., van der Klink, J. J. L. & Groothoff, J. W. (2010), "Gender and age differences in the recurrence of sickness absence due to common mental disorders: a longitudinal study", *BMC Public Health*, Vol. 10, pp. 1-10.
- Livanos, I. & Zangelidis, A. (2010), *Sickness absence: A pan-European Study*, [https://mpra.ub.uni-muenchen.de/22627/1/MPRA\\_paper\\_22627.pdf](https://mpra.ub.uni-muenchen.de/22627/1/MPRA_paper_22627.pdf).
- Lokke Nielsen, A.-K. (2008), "Determinants of absenteeism in public organizations: a unit-level analysis of work absence in a large Danish municipality", *International Journal of Human Resource Management*, Vol. 19 (7), pp. 1330-1348.
- Michie, S. & Williams, S. (2003), "Reducing work related psychological ill health and sickness absence: a systematic literature review", *Occupational and Environmental Medicine*, Vol. 60 (1), pp. 3-9.
- Neubauer, P. J. (1992), "The impact of stress, hardiness, home and work environment on job satisfaction, illness, and absenteeism in critical care nurses", *Medical Psychotherapy: An International Journal*, Vol. 5, pp. 109-122.
- Nielsen, M. B., Rustad-Indregard, A.-M. & Overland, S. (2016), "Workplace bullying and sickness absence: a systematic review and metaanalysis of the research literature", *Scandinavian Journal of Work Environment Health*, Vol. 42 (5), pp. 359-370.
- Nieuwenhuijsen, K. Bruinvels, D. & Frings-Dresen, M. (2010), "Psychosocial work environment and stress-related disorders, a systematic review", *Occupational Medicine*, Vol. 60 (4), pp. 277-286.
- Prins, R. & de Graaf, A. (1986), "Comparison of sickness absence in Belgian, German, and Dutch firms", *Occupational and Environmental Medicine*, Vol. 43, pp. 529-536.
- Rijksoverheid (2018), *Kabinet wil discriminatie arbeidsmarkt harder aanpakken*, <https://www.rijksoverheid.nl/actueel/nieuws/2018/06/19/kabinet-wil-discriminatie-arbeidsmarkt-harder-aanpakken>.
- Rugulies, R., Aust, B. & Pejtersen, J. H. (2009), "Do psychosocial work environment factors measured with scales from the Copenhagen Psychosocial Questionnaire predict register-based sickness absence of 3 weeks or more in Denmark?", *Scandinavian Journal of Public Health*, Vol. 38 (3), pp. 42-50.
- ScienceGuide (2017), "Hoe verder met psychische klachten promovendi?", 4 juli 2017, <https://www.scienceguide.nl/2017/07/hoe-verder-met-psychische-klachten-promovendi/>.



- Soler-González, J., Serna, M.-C., Bosch, A., Ruiz, M.-C., Huertas, E. & Rue, M. (2008), "Sick leave among native and immigrant workers in Spain—a 6-month follow-up study", *Scandinavian Journal of Work Environment Health*, Vol. 34 (6), pp. 438-444.
- Tenhiälä, A., Linna, A., von Bonsdorff, M., Pentti, J., Vahtera, J., Kivimäki, M. & Elovainio, M. (2013), "Organizational justice, sickness absence and employee age", *Journal of Managerial Psychology*, Vol. 28 (7/8), pp.805-825.
- Thomson, L., Griffiths, A. & Davison, S. (2000), "Employee absence, age and tenure: A study of nonlinear effects and trivariate models", *Work & Stress*, Vol. 41 (1), pp. 16-34.
- Thunnissen, M. & Fruytier, B. (2014), "Het mobiliseren van Human Capital: een overzicht van 25 jaar HRM-beleid op Nederlandse universiteiten", *Tijdschrift voor HRM*, No. 1, pp. 1-24.
- Tompa, E., Scott-Marshall, H. & Fang, M. (2008), "The impact of temporary employment and job tenure on work-related sickness absence", *Occupational and Environmental Medicine*, Vol. 65, pp. 801-807.
- Univers (2013), *Verzuim WP and OBP*, <https://universonline.nl/2013/03/15/verzuim-wp-en-obp>.
- UToday (2018), *UT students buckled under mental problems*, <https://www.utoday.nl/news/65394/ut-students-buckled-under-mental-problems>.
- UToday (2019), *'Get the guidance for international students in order'*, <https://www.utoday.nl/news/66615/we-need-to-get-the-guidance-for-international-students-in-order>.
- Van Veelen, R. & Derks, B. (2019), *Verborgen verschillen in werktaken, hulpbronnen en onderhandelingen over arbeidsvoorwaarden tussen vrouwelijke en mannelijke wetenschappers in Nederland*, [https://www.lnvh.nl/uploads/moxiemanager/LNVH\\_rapport\\_-\\_verborgen\\_MV\\_verschillen\\_in\\_werktaken\\_hulpbronnen\\_en onderhandelingen in de wetenschap.pdf](https://www.lnvh.nl/uploads/moxiemanager/LNVH_rapport_-_verborgen_MV_verschillen_in_werktaken_hulpbronnen_en Onderhandelingen_in_de_wetenschap.pdf).
- Virtanen, M., Kivimäki, M., Vahtera, J., Elovainio, M., Sund, R., Virtanen, P. & Ferrie, J. E. (2006), "Sickness absence as a risk factor for job termination, unemployment, and disability pension among temporary and permanent employees", *Occupational and Environmental Medicine*, Vol. 63, pp. 212-217.
- VSNU (2018), *WOPI jaaropgaven ziekteverzuim*.
- White, M., Wagner, S., Schultz, I. Z., Murray, E., Bradley, S. M., Hsu, V., McGuire, L. & Schulz, W. (2013), "Modifiable workplace risk factors contributing to workplace absence across health conditions: A stakeholder-centered best-evidence synthesis of systematic reviews", *Work*, Vol. 45, pp. 475-492.
- Ybema, J. F. & van den Bos, K. (2010), "Effects of organizational justice on depressive symptoms and sickness absence: A longitudinal perspective", *Social Science & Medicine*, Vol. 70 (10), pp. 1609-1617.

# **Well-being research 2019**

## **A researcher's reflection**

Author: dr. Nicole Torka

Date: 1 May 2019

## **OVERVIEW**

	Page
<b>MANAGEMENT SUMMARY</b>	3
<b>INTROCUCTION</b>	4
<b>PROFESSIONAL SPACE</b>	5
<b>'WE' –LEADERSHIP</b>	6
<b>SUSTAINABLE HRM</b>	7
<b>CONCLUSIONS</b>	8
<b>LITERATURE</b>	9

## MANAGEMENT SUMMARY

The University of Twente is a sustainability advocate. Scholars, students and support staff employ many activities for contributing to a world where all people and the planet enjoy prosperity. However, the credibility and impact of sustainability supporters is also measured alongside their own internal balance. How balanced or well are UT employees? This was the central question of this essay and its underlying documents. The short answer is: despite the fact that UT employees show high work engagement and commitment to the organisation, improvement is seriously needed. Here, the top-3 internal solutions is presented.

- 1. INCREASING PROFESSIONAL SPACE.** Superfluous administrative and bureaucratic waste has to be reduced. For a proper or sustainable clear-out, it is essential to know whom and what causes this waste. Household refuse can be resolved on site, but bureaucracy imposed from outside demands board of directors actions towards the outside.
- 2. INVESTING IN TRANSFORMATIONAL AND WE-LEADERSHIP.** Leaders who fully develop and apply their followers potential by being inspirational, a good role model, intellectually challenging and offering personal attention (i.e. transformational leaders), should be selected, developed and supported. Such leaders deserve explicit appreciation and reward. This is even more true if they show on top of this WE-leadership: retreating from self- and organisational interests (i.e. getting the work done) and act according to the followers fundamental human need for health and well-being. Even if ambitious projects or 'just' work cannot be started or finished, this means that leaders explicitly have to ensure that their followers are not getting overloaded and/or do not overload themselves. From the supervisors in academic and service departments to the board of directors this has to be a top priority. The tone is not enough, but action is demanded from the central and local top's.
- 3. INVESTING IN SUSTAINABLE HRM.** The sustainability of HRM strongly depends on employees evaluation. Much has to be done to improve their experience and well-being and, through that, the UT's long-term prosperity. Besides the incorporation of the employees voice, also stronger, better and more structural cooperation's between the central and local levels, HR professionals and supervisors and health care experts is needed.

However and finally, as mentioned in the introduction much or maybe most that affects employee well-being in a negative way is not home-made, but caused by external demands and shortcomings. Therefore, the opportunities to resolve issues on site is limited. This demands the boards of directors of all Dutch universities to take individual or, more powerful, collective actions. Without collective multiple stakeholder efforts cordial intentions and serious endeavors to enhance well-being and reduce work pressure are doomed to fail.

*“Es ist alles so verzwickt geworden, daß, es zu bewältigen, ein ausnahmsweiser Verstand gehörte. Denn es genügt nicht mehr, das Spiel gut spielen zu können; sondern immer wieder ist die Frage: ist dieses Spiel jetzt überhaupt zu spielen und welches ist das rechte Spiel?”*

Ludwig Wittgenstein (1937), p. 487.

## INTRODUCTION

*“Ensure healthy lives and promote well-being for all at all ages”*, is one of the 17 development goals (SDGs) set by the United Nations General Assembly in 2015 for the year 2030. Humans are the key to make the SDGs successful and them being in good health is a prerequisite for working towards all-embracing sustainability. To ensure the world becomes a place where all people and the planet enjoy prosperity, peace and partnership are needed. Although, every single individual can pursuit sustainability, cooperation between people and institutional endeavors are demanded for the good of the wider and increasingly boundary less society. Universities and other knowledge institutions can and should contribute in providing of what is required for improving the world’s current state of affairs. The association of Dutch universities (VSNU) states that universities are the driving force of societal flourishing and explicitly refer to Dutch universities contributions to the 17 SDGs. However, let us return to what was stated before: for devoting time and effort towards sustainability healthy people are crucial. This proclamation evokes a question about the state of health among Dutch universities employees. After all, it can be argued that the credibility and impact of those people and institutions who notably support sustainability is also measured alongside their own internal balance. In other words, sustainability advocates have to comply with the SDGs.

What is the state of the art of UT employees’ health? Although the UT and other Dutch universities still have sickness absence rates other sectors would applaud to, these rates are increasing. At the UT this increase is notably visible among support staff, teachers and different categories of female scientists including PhD candidates (Torka & Brinkman, 2019). What are the reasons for this increase? Very often this has been answered with enhanced work pressure. Employer association VSNU, WOInActie and other interest groups point to the following structural or sector-specific culprits for work pressure: an increase in student numbers, a lack and overdue of government investments, publication pressure and fierce competition on research funding. Additionally, demanded by the collective labour agreement of the Dutch universities, the working plans on work pressure also refer to domestic or home-made problems like excessive bureaucracy and board policies (VSNU, 2019). Despite cordial intentions and serious efforts to reduce work pressure within academic institutions, we observe a further increase in the sector and at the UT (de Leede et al., 2019; FNV/VAWO, 2019). However, work pressure not necessarily leads to illness and sickness absence and on the level of the UT as well as the sector, data on the work pressure-sickness absence connection are missing. Moreover, a sole focus on illness sheds light on just one side of the health coin. For the prevention, maintenance and improvement of employee health, it is essential to achieve knowledge about what is compulsory and harmful for employee health. In this context, it is important to mention that work circumstances are a better predictor of work-related illness and health than psychological or demographic correlates (e.g. Farrell & Stamm, 1988).

By connecting work circumstances to desirable and undesirable well-being indicators (i.e. work engagement and work pressure), the UT’s well-being research 2019 provides insight in what can and should be done to secure the UT as a ‘sustainable health’ employer. This document provides some overarching thoughts based on what the well-being research uncovered. The emphasis is on professional space, ‘We’-leadership and sustainable HRM.

## PROFESSIONAL SPACE

All UT employees are professionals: they are competent or skilled in a particular activity. In addition, scholars also belong to a once clearly defined profession (Weber, 1919). Members of a profession like scholars, lawyers and doctors tend to emphasize self-government for their professions and autonomy for each member and their “primary loyalty is to the professional group which determines for itself what tasks are within the expertise of its members, how they are to be performed, and how they are to be evaluated” (Freidson, 1973 in Satow, 1975, p. 529). High autonomy, also including voice in working times and location, is well-known as a remedy against work-related sickness absence (e.g. Bakker et al., 2003; Borritz et al., 2010) and this might explain why support staff shows higher sickness absence rates than scientific staff. However, at least concerning one issue scientific and support staff seem to have a lot in common: rumors circulate that the UT is haunted by a specter called bureaucracy. Is this just the disgruntled feeling of a few or the listeners’ general but maybe false impression?

The UT’s well-being research 2019 reveals that accomplishing tasks that are within the expertise of the scholarly profession and professionals in general are under pressure. Almost 70 percent of the responding full professors, associate professors and assistant professors report that their time for spending on research is (far) too little and only half of them perceives time for teaching ‘just good’. Both, research and teaching represent the core of the profession scientist. In contrast, they state spending too much time on administration, management and meetings. Also a substantial amount of managers and other support staff, lament spending (far) too much time on these tasks. All the aforementioned points to a displacement of core tasks due to bureaucracy. According to the respondents of the UT research, ‘administrative burden and bureaucracy’ is, next to work pressure and HR policies and practices, in the top-3 of ‘need to be improved issues’. Given these results, the conclusion is that the earlier mentioned rationale of the corridor is more than just a distorted impression.

Despite work pressure and bureaucracy, UT employees still show high work engagement: employees’ dedication and attachment towards their job performance (Schaufeli et al., 2006). Although very often work engagement is seen as desirable for employee well-being, several authors point to potential dangers of this and related work behaviour controlling mind-sets like professional commitment, identity and involvement: self-exhaustion and –exploitation (e.g. Bröckling; Ehrenberg, 2004, 2010; Velthuis, 2019). Even under low external pressure or heteronomy, people who demand much from themselves are likely to be high performers. After all, internalized work ethics force them to do so. However, imagine that those who possess outstanding standards face excessive demands from outside and distraction from core tasks through bureaucratic obstructions and, from the perspective of the professional, meaningless activities. First of all, under high workload it is burdensome to maintain internalized quality standards. People have to spend more time for getting their job properly done. This might be an explanation for what we found in the UT’s well-being research: excessive overtime hours and/or spending sick days or vacation days for finishing work. Second, if too high workload is not only caused by high requirements related to core tasks, but also perceived pointless non-core activities, professional alienation lies in wait likely guided by a maybe silent but simmering question: is this what I once expected from my work, why I deliberately or intrinsically chose for this professional path? In this context, we can understand work pressure as an effect of attempts to counteract an imbalance between meaningful core tasks and aggravating non-core activities or as a struggle for professional identity and quality.

Such a struggle points to an imminent loss of professional space: the opportunity to concentrate on a set of meaningful core tasks and attributes as agreed by professional and profession communities. For several reasons, such a loss of professional space is a threat to professionals, employing organisations and sectors alike. Research on, for example, teachers and social workers shows negative effects on professional morals, autonomy and the attractiveness of such professions for those already inside and in

the process of choosing a professional path (e.g. Bartley et al., 2012; Kostrogriz & Peeler, 2007). Therefore, in line with the well-being research advices, it is strongly recommended to focus on enlarging the professional space of UT employees by reducing superfluous administrative and bureaucratic waste. For a proper or sustainable clear-out, it is essential to know whom and what causes this waste. Household refuse can be reduced on site, but bureaucracy imposed from outside demands board of directors actions towards the outside.

## **'WE'-LEADERSHIP**

In academia, leadership is foremost equated with large amounts of publications in high-impact journals and abundant research funding. This refers to the ability of leading the self towards top research performance. While writing this essay, a discussion is occurring on the national level. In a collective statement, VSNU, NOW, ZonMw and NFU (2018) announced efforts for fundamental changes in 'recognising and rewarding scientists' (VSNU, 2018). Besides introducing career paths that treasure also lecturing and valorization talent and a new system for research evaluation, the attention is on good academic leadership and team science. The latter refers to a quest for more appropriate approaches to value and reward team cooperation and performance. Interestingly, the mentioned associations have not yet defined good academic leadership nor seem to explicitly associate such leaders with team science. This is rather surprising since a whole bulk of research shows connections between leadership and team cooperation as well as performance (e.g. Schaubroeck et al., 2007; Zhang et al., 2011). Moreover, adequately leading others is also vital for individual employees inclusion, motivation, performance and health including work pressure management (e.g. Cohen & Wills, 1985; Kuopalla et al., 2008; SoFoKles, 2017). What kind of leadership helps individuals, teams and organisations alike? The answer is positive or transformational leadership. Such leaders strive towards the full development and application of their followers potential by being inspirational, a good role model, intellectually challenging and offering personal attention (Bass & Avolio, 1994). In a nutshell, they provide support, communication, appreciation, attention and empowerment (o.a. Madsen et al., 2014; Skakon et al., 2010).

The well-being research inquired the transformational substance of UT supervisors by measuring leader-member exchange (LMX). LMX describes the quality of the relationship between supervisor and the employee, as experienced by the employee. Low quality LMX-relations are characterized by top-down interventions, economic exchange relationships and formal job descriptions. High quality LMX-relations consist of mutual trust, respect and mutual obligations between supervisor and the employee (Basu & Green, 1997; Graen en Uhl-Bien, 1995). So, how do UT employees perceive the relationship with their supervisor? Unrelated to age and gender, the results indicate that LMX is the least developed of all job resources. This should be improved since LMX shows significant positive relationships with desirable outcomes like team cohesion, autonomy, satisfaction with the UT, less strain and work engagement. In sum, if UT employees perceive high LMX they can achieve a work situation beneficial for their well-being. However, one result should make us very pensive: high LMX relates positively to increasing challenging demands. This refers to employee-initiated actions for (pro-actively) enacting additional responsibilities at work, such as starting new projects or taking on extra tasks even if the employees do not receive a salary for these tasks (de Leede et al., 2019). Thus, when UT employees perceive a good relationship with their supervisor they want to walk the extra mile and it can be assumed they also do so because the other (i.e. the supervisor) plays a constitutive role in the self (Hermans et al., 2017). The well-being research shows that the increase of challenging demands has a flipside: employees who pro-actively take on extra responsibilities run the risk of increasing their role overload and strain. Although organisations benefit from such employees and the latter might be perceived as highly employable, their sustainability can be at stake and this is especially true in an environment where work pressure is already high.

This is why we not only need more transformational leadership, but also more 'WE'-leadership. 'WE'-leadership transcends the working human, teams and organisations or, in other words, the economic sphere. A truthful WE is not a means to a depersonalized or, in this context, performance end. In a supervisor-follower relationship this refers to supervisors who retreat from self- and organisational interests (i.e. getting the work done) and act according to the followers true human needs (Honneth, 2008, 2010, 2011). Even if ambitious projects or 'just' work cannot be started or finished, this means that supervisors explicitly have to ensure that their followers are not getting overloaded or do not overload themselves. In the context of well-being and sustainability, from the heads of academic and service departments to the board of directors this should be the top priority.

## **SUSTAINABLE HRM**

The well-being research shows that investing in HRM practices does offer good possibilities to reduce strain and increase work engagement. Our findings indicate that better HRM can lead to higher commitment, better team cohesion, better leader-member relations and less role overload. In the report, satisfaction with HRM was treated as one variable and therefore gives no insight into the employees perceptions of different HR aspects. An additional analysis will focus on this issue and will be available later this year. We offer the reader a sneak preview on the state of affairs. On a scale from 1 (=very dissatisfied) to 5 (=very satisfied) employees were able to rate all that belongs to HRM. Only concerning one aspect employees seem to be truly satisfied (4,04): benefits other than pay (working times, vacation days, pension arrangements, etc.). Training- and education opportunities received not a high, but still the second highest score (3,84). So, from the perspective of the UT employees, much needs serious improvement. This is especially true for older employees, because they are significantly less satisfied with HRM than their younger colleagues. This begs for more age-awareness in HRM policies and practices (see also the sickness absence analysis). In contrast, males and females do not show significant differences in their HR experience.

The collective labour agreement of the Dutch universities emphasizes the importance of mobility and sustainable employability. Having this in mind, it is concerning to see that employees satisfaction with opportunities to change jobs within the UT (3,0; i.e. the lowest evaluation of all HR aspects) and opportunities to develop within current position (3,43) is rather low. Good performance interviews and feedback on performance are critical ingredients for getting people on the move. Given the outcomes, also here is much to win (3,21 respectively 3,32). Recognition for performance is a vital part of valuing and rewarding all people and not only scientists. Many employees seem to miss full recognition for their efforts to help the UT, their supervisor or team flourishing (3,30). This points towards what has been stated in the last paragraph: investments into the development of positive or transformational leadership are desired. Finally, attention should be on the space to influence decisions related to issues that concern employees directly. This is also known as direct participation or voice quality and strongly related to meeting different employee needs through adequate HRM. The archives show that the better organisations are able to meet employees desires, needs and purposes the more likely the latter reciprocate favourable work attitudes and behaviour. An open climate is not only a prerequisite for discussing aggression and violence at work, but also for addressing much less sensitive HRM issues. Also concerning the topic direct participation, UT employees demand progress (3,31). Employees raise voice on the most proximate level of the labour relations: towards their supervisor. Therefore, the latter's response is crucial for the quality of HRM as perceived by employees. However, HR policies need to provide space for different needs and HR professionals and supervisors have to team up for optimizing such policies and practices: they have a shared responsibility. In other words, for improving employees experiences, HR professionals and supervisors have to learn from each other and related to well-being



also health care professionals can play an important role. The report of the UT's occupational health service Arbo Unie provides some starting points for better health management. Moreover, and most important, the opinions and experiences of employees are crucial for determining the current and future value of HRM. We truly have to listen to them for increasing individual and organisational well-being. The UT's well-being research offers a serious opportunity to reconcile and work on employees and organisational needs alike.

## CONCLUSIONS

The University of Twente is and wants to increase her role as a sustainability advocate. Scholars, students and support staff employ many activities for contributing to a world where all people and the planet enjoy prosperity. However, the credibility and impact of sustainability supporters is also measured alongside their own internal balance. How balanced or well are UT employees? This was the central question of this essay and its underlying documents. The short answer is: despite the fact that UT employees show high work engagement and commitment to the organisation, improvement is seriously needed. Here, the top-3 internal solutions is presented.

- 1. INCREASING PROFESSIONAL SPACE.** Superfluous administrative and bureaucratic waste has to be reduced. For a proper or sustainable clear-out, it is essential to know whom and what causes this waste. Household refuse can be resolved on site, but bureaucracy imposed from outside demands board of directors actions towards the outside.
- 2. INVESTING IN TRANSFORMATIONAL AND WE-LEADERSHIP.** Leaders who fully develop and apply their followers potential by being inspirational, a good role model, intellectually challenging and offering personal attention (i.e. transformational leaders), should be selected, developed and supported. Such leaders deserve explicit appreciation and reward. This is even more true if they show on top of this WE-leadership: retreating from self- and organisational interests (i.e. getting the work done) and act according to the followers fundamental human need for health and well-being. Even if ambitious projects or 'just' work cannot be started or finished, this means that leaders explicitly have to ensure that their followers are not getting overloaded and/or do not overload themselves. From the supervisors in academic and service departments to the board of directors this has to be a top priority. The tone is not enough, but action is demanded from the central and local top's.
- 3. INVESTING IN SUSTAINABLE HRM.** The sustainability of HRM strongly depends on employees evaluation. Much has to be done to improve their experience and well-being and, through that, the UT's long-term prosperity. Besides the incorporation of the employees voice, also stronger, better and more structural cooperation's between the central and local levels, HR professionals and supervisors and health care experts is needed.

However and finally, as mentioned in the introduction much or maybe most that affects employee well-being in a negative way is not home-made, but caused by external demands and shortcomings. Therefore, the opportunities to resolve issues on site is limited. This demands the boards of directors of all Dutch universities to take individual or, more powerful, collective actions. Without collective multiple stakeholder efforts cordial intentions and serious endeavors to enhance well-being and reduce work pressure are doomed to fail.

## LITERATURE

- Bakker, A., Demerouti, E., de Boer, E. & Schaufeli, W. B. (2003), "Job demands and job resources as predictors of absence duration and frequency", *Journal of Vocational Behaviour*, Vol. 62 (2), pp. 341-356.
- Bartley, A, Bedoe, L, Fouché, C. & Harington, P. (2012), "Transnational Social Workers: Making the Profession a Transnational Professional Space", *International Journal of Population Research*, pp. 1-11.
- Baruch, Y. & Cohen, A. (2007), "The dynamics between organizational commitment and professional identity formation at work", in A. Brown, S. Kirpal & F. Rauner *Identities at work* (pp. 241-260), Dordrecht: Springer.
- Bass, B. M. & Avolio, B. J. (1994), *Improving organizational effectiveness through transformational leadership*, Thousand Oaks, CA: Sage Publications.
- Basu, R. & Green, S.G. (1997). Leader-Member exchange and transformational leadership: An empirical examination of innovative behaviors in leader-member dyads. *Journal of Applied Social Psychology*, 27, 477-499.
- Borritz, M., Christensen, K. B., Bultmann, U., Rugulies, R., Lund, T. Andersen, I., Villadsen, E., Diderichsen, F. & Kristensen, T. S. (2010), "Impact of Burnout and Psychosocial Work Characteristics on Future Long-Term Sickness Absence. Prospective Results of the Danish PUMA Study Among Human Service Workers", *Journal of Occupational and Environmental Medicine*, Vol. 52 (10), pp. 964-970.
- Bröckling, U. (2007), *Das unternehmerische Selbst. Soziologie einer Subjektivierungsform*, Frankfurt a. M.: Suhrkamp.
- Cohen, S. & Wills, T. A. (1985), "Stress, social support and the buffering hypothesis", *Psychological Bulletin*, Vol. 98, pp. 310–357.
- De Leede, J., Meijerink, J. & Torcka, N. (2019), *Work engagement and work pressure: still in balance? A well-being study among UT employees*, Enschede: University of Twente.
- Edwards, P. K. & Scullion, H. (1984), "Absenteeism and the Control of Work", *Sociological Review*, Vol. 32 (3), pp. 547–572.
- Ehrenberg, A. (2004). *La Fatigue d'être soi. Dépression et société*. Paris: Odile Jacob.
- Ehrenberg, A. (2010). *La Société du malaise*. Paris: Odile Jacob.
- FNV/VAWO (2019), *Werkdruk Universiteiten*, <file:///C:/Users/Gebruiker/Downloads/57966a6b-cd4e-4532-a3cb-5f05fb0fd5a7.pdf>.
- Freidson, Eliot (1973), "Professionalization and the organization of labor in post-industrial society", *The Sociological Review Monograph*, Vol. 20. Pp. 47-59.
- Honneth, A. (2008), "Arbeit und Anerkennung. Versuch einer Neubestimmung", *Deutsche Zeitschrift für Philosophie*, Vol. 56, pp. 327-341.
- Hermans, H. J. M., Konopka, A., Oosterwegel, A. & Zomer, P. (2017), "Fields of Tension in a Boundary-Crossing World: Towards a Democratic Organization of the Self", *Integrative Psychological and Behavioral Sciences*, Vol. 51 (4), pp. 505-535.

- Honneth, A. (2010), *Das Ich im Wir. Studien zur Anerkennungstheorie*, Berlin: Suhrkamp.
- Honneth, A. (2011), *Das Recht der Freiheit. Grundriß einer demokratischen Sittlichkeit*, Berlin: Suhrkamp.
- Kostrogriz, A. & Peeler, E. (2007), "Professional Identity and Pedagogical Space: Negotiating difference in teacher workplaces", *Teaching Education*, Vol. 18 (2), pp. 107-122.
- Kuoppala, J., Lamminpää, A., Liira, J. & Vainio, H. (2008), "Leadership, Job Well-Being, and Health Effects—A Systematic Review and a Meta-Analysis", *Journal of Occupational and Environmental Medicine*, Vol. 50 (8), pp. 904-915.
- Madsen, I. E. H., Magnusson Hanson, L. L., Rugulies, R., Theorell, T., Burr, H., Diderichsen, F. & Westerlund, H. (2014), "Does good leadership buffer effects of high emotional demands at work on risk of antidepressant treatment? A prospective study from two Nordic countries", *Social Psychiatry and Psychiatric Epidemiology*, Vol. 49, pp. 1209-1218.
- Satow, R. L. (1975), "Value-rational authority and professional organizations: Weber's missing type", *Administrative Science Quarterly*, Vol. 20 (4), pp. 526-531.
- Schaubroeck, J., Lam, S. S. K. & Cha, S. E. (2007), "Embracing transformational leadership: Team values and the impact of leader behavior on team performance", *Journal of Applied Psychology*, Vol. 92 (4), pp. 1020-1030.
- Skakon, J., Nielsen, K. & Guzman, J. (2010), "Are leaders' well-being, behaviours and style associated with the affective well-being of their employees? A systematic review of three decades of research", *Work & Stress*, Vol. 24 (2), pp. 107-139.
- SoFoKles (2017), *Omgaan met werkdruk binnen universiteiten*, Den Haag: SoFoKles.
- Torka, N. & Brinkman, R. (2019), *An analysis of sickness absence among University of Twente employees (2014-2018)*, Enschede: University of Twente.
- Velthuis, O. (2019), "Steeds meer klachten over verhoogde werkdruk, maar niemand gaat de straat meer op", *de Volkskrant*, 25 april 2019, <https://www.volkskrant.nl/columns-opinie/steeds-meer-klachten-over-verhoogde-werkdruk-maar-niemand-gaat-de-sstraat-meer-op~be64fbca/>.
- VSNU (2018), *VSNU, NWO, NFO en ZonMw geven impuls aan verandering in het waarderen en belonen van wetenschappers*, [https://vsnu.nl/nl\\_NL/nieuwsbericht.html/nieuwsbericht/489-vsnu-nwo-nfu-en-zonmw-geven-impuls-aan-verandering-in-het-waarderen-en-belonen-van-wetenschappers](https://vsnu.nl/nl_NL/nieuwsbericht.html/nieuwsbericht/489-vsnu-nwo-nfu-en-zonmw-geven-impuls-aan-verandering-in-het-waarderen-en-belonen-van-wetenschappers).
- VSNU (2019), *Werkdruk*, <https://vsnu.nl/werkdruk.html>.
- Weber, M. (1919), *Wissenschaft als Beruf*, [https://www.molnut.uni-kiel.de/pdfs/neues/2017/Max\\_Weber.pdf](https://www.molnut.uni-kiel.de/pdfs/neues/2017/Max_Weber.pdf).
- Wittgenstein, L. (1937), *Vermischte Bemerkungen* (Bd. 8), pp. 445-573.
- Zhang, X.-a., Cao, Q. & Tjosvold, D. (2011), "Linking Transformational Leadership and Team Performance: A Conflict Management Approach", *Journal of Management Studies*, Vol. 48 (7), pp. 1586-1611.